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THE

SEXUAL SYSTEM,

AND

MEDICAL COMPANION.

EMBRACING

*A description of the Anatomy, Generative Functions,
Marriage Conditions, and Special Diseases of
the Male and Female Sexual System.*

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BY

WESLEY GRINDLE, M.D.,

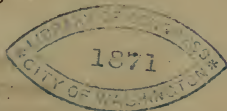
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"ADULTERATED DRUGS AND MEDICINES," "PATHOLOGY
AND TREATMENT OF PULMONARY CONSUMPTION,"

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PREFACE.

THERE is a universal custom among authors to present their works to the public by certain preliminary remarks, called a Preface which looks well enough mechanically, as a sort of handle to a book. Some authors carry this custom still further, and succeed the preface by stringing together a number of paragraphs which they call an Introduction; but the reader, conscious that this is a form without much substance, with a very slight notice, usually passes over all such preliminaries, and enters, at once, upon the perusal of the body of the work. We hope, however, that this preface will be carefully perused by every one into whose hands the book may pass, for we have brought to light many startling, as well as practical truths, usually regarded as hidden things among eminent medical men, and some preliminary explanation, as to their character, design, arrangement, etc., seems necessary.

No enlightened physician can doubt for a moment, that a systematic work upon the sexual system of both sexes, designed for the reading masses of the American people, is greatly needed in the present state of society; for we constantly find large numbers of men and women laboring under the most fearful apprehensions relative to their physical condition, or afflicted with various weaknesses, infirmities, and diseases of the most dangerous and loathsome character, all for the want of a little sound instruction con-

cerning themselves—the manner in which they are made, the functions of their sexual organs, the causes which induce debility and disease, and the best method of prevention and cure. Surely “The true study of man is man.”

To the best of our knowledge—and we have taken great pains to look into the matter—there is no work extant possessing the requisite characteristics to guide and instruct the people upon these delicate subjects. Those voluminous works, designed for our medical colleges and libraries of physicians, filled with abstruse technicalities from the Greek and Latin, and the erudition of every branch of medical science, from anatomy to *materia medica*, cannot be read with profit by any man, except a physician, or student of medicine, in connection with a full course of medical study. They are, therefore, entirely above the comprehension of non-professional readers, and to them must for ever remain sealed books. On the other hand, those insignificant works, designed for the people, and scattered broadcast over the land, emanate from men without learning, experience, or reputation in the profession, and contain such a large admixture of errors, vulgarities, and falsehoods, that they are only fit to be consigned to the flames, as they can only mislead, confuse, and perplex the reader, and render distasteful all such studies.

To fill this gap in our popular literature, this work has been prepared with great care in the statement of facts, the arrangement of subjects, and the purity and elegance of style, which give it the high character of a correct instructor, and an entertaining companion, upon subjects of the most thrilling and vital interest to all classes of the community. It is divided, as the reader will perceive, into chapters, with the running contents of each chapter prefixed. The reader, can, therefore, find many collateral and dependant subjects, not indicated in the heading of the chapters, by casting his eye over these contents; many others he cannot find without read-

ing the whole book, as our space, in this particular, has been greatly limited. The book is, therefore, designed to be read, as well as preserved for future reference.

In the following brief outline the reader will perceive the systematic arrangement of these subjects:—

The first chapter is devoted to a description of the female genital organs, and their offices in the reproduction of the species. In the second chapter, we have described the male genital organs, and their functions in furnishing the male element of reproduction. In the third chapter, the reader will find an interesting and faithful description of sexual development, or that period of life in both sexes when the generative faculty commences. The fourth chapter is on matrimony, in which those great physical, mental, and moral qualities, which lie at the foundation of happy marriages, and the peace and good order of society, are pressed home upon the understanding and consciences of our readers; and many other thoughts of thrilling and practical interest, connected with the relations of the sexes, are freely divulged. In the fifth chapter, the reader will find a description of gestation, in which we consider the development of the foetus, its appearance at different stages of gestation, and its nutrition; the formation and growth of the membranes, the growth of the womb, etc., etc. The sixth chapter is devoted to a careful description of the divinely appointed powers and processes of natural labor, its management, the care of the mother and the child, etc. In the seventh, we give a concise description of various diseases peculiar to the female organization. In the eighth, we treat of abortions and premature labors, which multitudes of ladies should read carefully and ponder well. In the ninth chapter, we treat of sterility and impotency, subjects of the deepest interest to thousands who are barren from imprudences, or other causes, which the enlightened physician can remove. In the tenth chapter, the reader will find a portraiture of the destructive consequences of various

kinds of sexual abuses and pollutions, which every young man, and many of riper years, should carefully ponder. The eleventh, and last chapter, consists of a treatise upon infectious sexual diseases, usually called venereal diseases, and sometimes *bad* diseases. Every person should have some correct knowledge of the nature of these diseases. It is too late to say that they are unsuitable subjects for the study of the young and innocent; for the innocent may be contaminated in various ways; and the most efficient way of deterring them from the practice of vice, is to hold up before them the terrible consequences thereof.

In withholding all engravings from this book, we have been influenced by the two following reasons: 1. They can seldom be of service, except to the medical student, in connection with dissections, preparations, casts, etc., but more frequently confuse than enlighten the general reader. 2. In a popular work upon the sexual system, pictures are always in bad taste, especially upon anatomical subjects. To every person of decent sensibilities, they appear vulgar and obscene, and tend to inflame the passions of young persons, and lead them into habits of licentiousness, degradation, and ruin. Every parent, therefore, into whose hands one of these dirty things may happen to fall, should defy the anger of Venus Fricatrix by indignantly throwing it into the fire.

In treating these subjects, we have been obliged to use many names derived from the Greek and Latin—especially the latter—sanctioned by long usage among medical men; but when practicable we have followed them by a brief definition; at other times, the connection in which they stand, renders their meaning clear enough. Our constant study has been, to make these delicate and important subjects clear and intelligible to the intelligent masses of non-professional readers, and as far as possible to avoid all language which could offend the sensibilities of sensible people. No doubt, there is a mock modesty which will pretend to be horrified at the discussion

of some of these subjects, though they affect honor, reputation, health, and life itself. To such persons, the language of an old English king, when he picked up the lady's garter in a crowd, and presented it to her, seems appropriate—*honi soit qui mal y pense!* This, therefore, is not a book to be hid away in trunks and closets, but having been read, it should be preserved for future reference, as an important addition to the family library.

Upon the nature and treatment of many of the abuses, infirmities, and diseases of the sexual system, we have spoken with great plainness and confidence, not in the spirit of boasting, nor professing to have outrun our professional brethren in general medical learning; but while physicians of learning, who alone are capable of investigating these subjects, have almost entirely ignored them, especially in this country, we have devoted much time, and patient labor to their investigation and treatment which give us the right to speak with confidence. Indeed, the science of medicine is so extended, and the human family are subject to so many disorders, affecting the whole system generally, and every organ in particular, and these are so varied in their nature and treatment that it is impossible for any man to dabble in the routine of general practice for a whole life-time, and rise to eminence in any special branch of medicine—especially the complicated and difficult branch under consideration.

Every physician who has an appointment in a large hospital, or in a respectable medical college, is assigned to a special department of medicine; and if he possesses talent, industry, and a good observation, he may attain to a degree of eminence in that department. Hence, we have eminent surgeons, eminent physicians, eminent obstetricians, eminent pharmaceutics, etc., but it is almost impossible for one man to obtain eminence in all these branches.

In the New York University where we passed the greater portion of our pupilage, and, according to the custom of such institutions, were made Doctor of medicine, there were four cliniques, viz: One

surgical, one medical, one for the treatment of diseases of women and children, and one for the treatment of venereal and other sexual diseases; and in pursuing our studies still further, we found similar arrangements abroad, and in other countries. In this way the interests of such institutions, and of the profession generally, are promoted, by bringing before the classes the greatest amount of skill and experience. Is it, therefore, strange, that the skillful and efficient treatment of the various and complicated infirmities and dangerous diseases of the male and female sexual system, should require much study, investigation, and experience?

The late Sir Astley Cooper, an English surgeon of great eminence, observed to his class: "Gentlemen, these are some of the arcana of the profession, into which you will not be readily admitted; it is not until you have contended long with popular prejudices, that you will be made acquainted with such important secrets. When forty years of practice shall have rolled over your heads, when you shall have the snows on the tops of the mountains, then, and not till then, will you be required to give your opinion on such weighty matters."

Philadelphia, 1864.

THE SEXUAL SYSTEM.

CHAPTER I.

FEMALE GENITAL ORGANS.

The pudendum or external organs—The mons veneris, labia majora, labia minora, clitoris, vestibule, meatus urinarius, urethra, and hymen described—Their abuses, diseases, and malformations noticed—Amputations of the nymphæ and clitoris—Supposed hermaphrodites—The Lesbian love—The uses of the nymphæ, clitoris, and hymen explained, and ludicrous errors exposed—The internal genital organs—The vagina, womb, fallopian tubes, and ovaries described—Interesting case of impotence from rigid contraction of the orifice of the vagina—The instinctive motions of the fimbriated extremities of the fallopian tubes—The ovum or human egg—Its structures, minuteness, and wonderful capabilities considered—The corpus luteum—The doctrine omnia ex ovo established.—From Harvey.

THE sexual system in the female consists of various organs, having as many names and special offices to perform in the generation of the species. For the purposes of description, they may be divided into the external and the internal, the former embracing those which are situated upon the outside of the pelvis, while the latter are protected within the body of the female, no portion of which being brought into view except by the use of instruments.

It is evident, therefore, that the line of division is the entrance to the vagina. The external organs are sometimes included in the single name, *pudendum*.

Persons not studied in anatomy are often greatly perplexed to understand some of the terms which are usually employed to designate the relations and positions of various parts of these organs. Thus, when we use the word *anterior*, as applied to any part of the external organs, they think it should be *superior*; and when we use the word *posterior*, they think the word *inferior* would better express the position of the part. But such confusion will disappear from the mind of the reader, if he reflect that all anatomical descriptions regard the subject as being in the *standing*, and not in the sitting or lying posture. In such a posture, the intelligent reader will readily understand, that a horizontal line will be parallel to the fissure of the pudendum; while in the lying posture, such a line would be at right-angles, or very nearly so, to the fissure.

We often associate two of these words thus, antero-posterior, from before backwards; antero-superior, or we say, anterior superior, meaning before and above, etc.

With this brief key to the use of these terms, we shall proceed to describe *first* the external, and *secondly* the internal genital organs of the female.

MONS VENERIS literally signifies mount of love. It is situate in front of the symphysis pubis, being the anterior-superior portion of the external organs, and it consists chiefly of fibrous, cellular, and fatty tissue, covered with integument. It is rounded and more or less prominent

according to the amount of its tissue and the prominence of the bone on which it is situated. At puberty it is covered with hair. It is not known to possess any function, or to be of any use in the sexual economy, except to prevent injury from any undue violence or pressure in the intercourse of the sexes. For this purpose it forms a sort of cushion. It also gives the characteristic rotundity and loveliness to the female form.

This structure, like some other parts of the genital organs, is liable to active inflammations, at any age of the patient, which, without timely and efficient treatment, may run on to produce abscesses, and burrowing fistulous openings, causing much suffering, and a long, tedious recovery.

LABIA MAJORA literally signifies the large lips. They are also called the *labia externa*, or the external lips of the vagina. They consist of two thick folds of integument, cellular and fatty tissue, and extend from the inferior and central part of the mons veneris to the perineum behind—the perineum being the structure between the vagina and the anus, which is about one and a half inches in extent.

At puberty, the labia majora are more or less covered with hair, and their general form is semi-lunar or like a half-moon. Where they meet behind and disappear into the perineum we find a fold of mucous membrane stretching across and binding the two folds of the lips more closely together. This is about as thick and strong as the frenum or bridle of the penis, and it is called the fourchette or frenum of the vagina. It is often ruptured at the first labor; and it is, therefore, of some consequence, together

with other evidences, in deciding the question as to the delivery of a child. There is a little space between the fourchette and the posterior border of the orifice of the vagina, which is called the fossa navicularis, literally signifying a little ship.

The internal surfaces of the labia majora are smooth and moist with a mucous secretion, and in the young they are of a pink color, while in the old they have a pale or livid hue, and they resemble the mucous membranes of other parts. In virgins, these surfaces are closely in contact; but in women who have born children, they remain more or less separated. The anatomical name of the space between the labia majora is the *vulva*; and we will here call attention to a misapplication of this term by many writers. It is frequently used by such to denote the labia majora themselves, and hence, when they describe the diseases of these parts there is some difficulty in getting their precise meaning. We repeat, therefore, that the term refers simply to the space between the labia majora, or more properly speaking, to the mucous surfaces brought into view by separating the lips, and the term should be used in no other sense.

The labia majora are very elastic, and their principal use seems to be to favor the dilatation of the parts during parturition; for during the passage of the child's head, they are so distended that their form entirely disappears, returning, however, to their normal condition after the labor is completed. They are subject to various diseases, such as inflammation, infiltrations, fatty growths, eruptions, excoria-

tions, itchings, etc. ; and their surfaces sometimes adhere or grow together. This latter condition is sometimes found to exist at birth, but it most frequently takes place in the adult, as the result of excoriations and uncleanness. The mucous and sebaceous glands, which in health secrete a fluid to lubricate the parts, and to protect them from the consequences of friction, will through some morbid influence, sometimes pour out an acrid irritating material, which inflames and excoriates the internal surfaces of the labia ; and if the female be married, this acrid secretion, it is supposed by some authors may produce in the husband a sort of gonorrhœal discharge. Great caution is, therefore, required, on the part of the practitioner, not to confound such an affection with true venereal disease.

LABIA MINORA literally signifies the lesser lips. They are sometimes called the labia interna or the internal lips ; but more frequently they are spoken of as the nymphæ, whence is derived the English word nymph, signifying a goddess of the woods, meadows, and waters ; and sometimes lewd and immodest girls, and flirts, are called nymphs. The labia minora are two folds of mucous membrane situated within the labia majora, and extending from the superior junction of the latter to the middle of the vaginal orifice, where they disappear into the other structures. They have a free margin like a cock's comb, and are well supplied with nerves, and some erectile tissue is found in their structure. In virgins, they are concealed within the vulva, but in women who have born children, they are more or less elongated, and often protrude beyond the vulva, and

they change from the virgin pink to the brownish color as age advances.

In the Hindoos, Persians, Hottentots, etc., the nymphæ are sometimes greatly elongated, and form most inconvenient flaps, somewhat resembling a dog's ears. Travelers have described these dog's ears as extending the enormous length of six or eight inches, and they are not unfrequently removed by the knife of the surgeon. Unlike the large lips they do not disappear during parturition, and investigators have been puzzled to ascertain their uses. They were supposed by the early writers to be serviceable during micturition in giving direction to the stream of urine, but this notion is now abandoned, for they do not seem to be arranged in such a manner as to fulfill any such purpose. It has also been supposed that they favor the dilatation of the vaginal orifice during labor, but a sufficient refutation of such an hypothesis, is found in the fact that they do not disappear, as we have already stated, during such dilatation, which any one who attends a case of labor, can verify for himself. In order to favor the dilatation of the passage for the escape of the child, it would be necessary to put them upon the stretch, so that, for the time being, they would lose their crescentic form, and disappear into the surrounding parts, which, as we have said, does not take place. Another doctrine is that, as the nymphæ increase the extent of surface sensibility, the pleasurable excitement upon the approaches of the sexes must also be increased as a necessary appendage of the generative powers. This is the most reasonable doctrine, for we know that pleasure is

a necessary concomitant of generation. Most people are too selfish to propagate their species from a sense of duty alone. If it is bitter in the belly it must be sweet in the mouth.

The nymphæ are liable to eruptions, excoriations, itchings, and a high state of venereal furor or excitement, often becoming exceedingly troublesome. There is a disease called nymphomania, because it was supposed to be seated in the nymphæ, which consists in an insatiable and uncontrollable desire for venereal indulgence. It occurs most frequently in females of a nervous temperament excited by masturbation, obscene pictures, lascivious prints, or whatever keeps the organs in a state of excitement, and the imagination filled with voluptuous thoughts.

THE CLITORIS.—This word, according to Dunglison the learned lexicographer, is from the Greek κλητρος, and literally signifies “a servant who invites guests.” This name, as well as many others in our medical nomenclature, shows that the older anatomists were in the habit of giving names to various parts of the body suggested by vulgar and trivial circumstances. A servant who invites guests! not always politely, perhaps. It is sometimes called penis muliebris, which, translated into plain English, means a woman’s penis.

This is a small rounded body, not larger than the end of a child’s little finger, situate within the anterior part of the vulva, and receiving from the labia minora a covering called the prepuce of the clitoris. It also has a double frenum consisting of very small folds of membrane. That

portion of the clitoris brought into view by separating the large lips, is its head or glans merely; the body being directed above and concealed from view by the other structures. The glans and the body together, are ordinarily about one inch long. Like the penis, it is attached to the pubic bone by two crura, and it has the capability of being erected under sexual excitement; indeed, its body consists of the same structure, which makes up the larger portion of the penis, the corpora cavernosa.

It is usually stated by authors, that this little insignificant organ is the principal seat of pleasure in the intercourse of the sexes; but this doctrine, to our mind, is very questionable. The notion seems to be merely traditionary, having been handed down from the days of Aristotle to the present time, and endorsed by the whole profession without an inquiry as to its soundness.

The clitoris is undoubtedly a mere analogue of the male penis; a slight attempt, as it were, to develop in the female an organ which is essential only to the male sex. The same analogy is found to exist between other parts of the male and female sexual organs. The male mammaries, for instance, are far from being fully developed organs. They seem to have no office to perform, and they are regarded as mere rudimentary analogues of the well developed female breasts so indispensable in furnishing nourishment for her offspring. We cannot, therefore, ascribe to the clitoris the important office of being the principal seat of the sexual organism. But by subjecting this little organ to friction, as in masturbation—a most miserable degrading

practice by the way—we suppose it may be the seat of considerable lascivious excitement; but in the legitimate connection of the sexes, it is quite different; the vagina must, in such cases, be the chief seat of pleasure, which is thence distributed to other portions of the sexual apparatus, the clitoris being no more excited than other parts of the external organs.

As a malformation, the clitoris is sometimes so elongated as to resemble the penis of a lad before puberty, and deceive the female as to her true sex. Many cases are on record, where females with this malformation have been attired and reared from infancy as males, and have acquired the habits of the rougher sex, and passed in the world as such, till, by some accidental circumstance, their true sex was discovered. Such cases were once known as hermaphrodites. It is recorded of the Abyssinian women, and some other races, that this organ so often attains such an enormous length as to establish the custom of removing it with the knife of the surgeon. At the time the Abyssinians were converted to Christianity, an effort was made to abolish this species of circumcision as a remnant of paganism, but the men rebelled against the innovation; and the Roman Pontiff was compelled to restore the custom. The lustful embraces of women with each other, called the *Lesbian Love*, no doubt had its origin in such malformations, or the attempt to satisfy the sexual instinct between a so-called hermaphrodite and a virgin. This revolting practice derived its name from the Island of Lesbos where it is said to have been practiced by Sappho the cele-

brated poetess. In ancient Rome, and in Paris, before the first French revolution, we are informed that *societies* of such women existed. In the latter place they styled themselves the vestals, a name signifying the consecration of virgins to a life of celibacy and chastity.

THE VESTIBULE, MEATUS URINARIUS AND URETHRA.—Bounded in front by the clitoris, on either side by the nymphæ, and behind by the meatus urinarius, we find a small triangular space, to which the name vestibule has been given. As the vestibule, or entrance to a building, is at the front part of the building, so this smooth little space is immediately in front of the orifice of the vagina; hence its name. It is occasionally studded with small fleshy excrescences, which may give rise to mucous discharges, and it is often the seat of very annoying and persistent itching, which we have noticed more fully under the head of *Pruritus Pudendi* in our chapter on female diseases.

At the anterior part of the orifice of the vagina, we find a little pad-like prominence about as large over as the widow's mite, or a gold dollar, which is depressed in the centre. This is the external opening of the urethra, called the meatus urinarius. It is easily recognized by the finger; and is, therefore, a good guide for the physician when it is necessary to introduce the catheter to draw off the urine, enabling him to perform the operation without the exposure of the female. The female urethra is, strictly speaking, an internal organ, but we will describe it in connection with its external opening, the meatus urinarius.

It is about one inch and a quarter long, and extends backwards through the anterior wall of the vagina, and slightly upwards into the bladder. Its structure consists of cellular tissue, with some muscular fibres, and a lining of mucous membrane continuous with that of the bladder. This canal is very dilatable, and in consequence of this, and also its shortness, stone in the female bladder is comparatively unfrequent, for the nucleus of formation is easily washed out of the bladder at the time of voiding the urine.

THE HYMEN.—This is a Greek word which literally signifies marriage, nuptial song, etc., and hence it is used by anatomists as the name of a membrane which stretches across the orifice of the vagina, and is usually ruptured upon the consummation of the marriage rite, or at the first sexual intercourse. It is semi-lunar in form, with an opening in front to the vagina. Sometimes there is an opening behind, and at other times the membrane grows around the entire orifice, and is perforated with one or more small holes. Again, the hymen is occasionally imperforate, that is, it entirely closes the orifice to the vagina, having no hole through it. In such a predicament, when the girl arrives to puberty, there can be no escape of the menstrual fluid, which remains pent up, as it were, in the vagina and womb, causing the patient great suffering and sometimes simulating pregnancy. The reader will find this condition more fully pointed out under the head of amenorrhœa, in our chapter upon female diseases. The remedy is very simple, in the hands of a skillful physician, and no time should be lost in seeking relief.

The hymen is sometimes spoken of by the older anatomists, as the *flos virginalis*, which means the flower of the virgin, and when she is deprived of it, she is said to be deflowered. The remains of this membrane, after it has been ruptured, consist of a number of little folds, called the *carunculæ myrtiformes*, from their supposed resemblance to myrtle leaves. Upon these little folds we have seen ulcerating sores, soon after marriage, as the result of too frequent intercourse, which had led to the suspicion of the patient having contracted venereal disease. In such a case, the medical man cannot be too careful in pronouncing his opinion; for the well-being and happiness of the parties may be destroyed by his ignorance, or secured by his ability to form a correct diagnosis.

But what use does the hymen subserve? One writer, who holds the position of professor in a Medical College—whose name we prefer to suppress—makes the uncouth and unfounded statement, that the rupture of the hymen increases the sexual delight, and he seems to suppose that this is its only use. But we think the whole sisterhood of married ladies will give the contradiction to such a statement. So far as the rupture of the hymen is concerned, there is pain instead of pleasure, which accords with the statement that, in pain shall a woman “conceive and bring forth;” and experience shows that, as a general thing, some little time must elapse after marriage, before the female is fully prepared to enjoy the pleasures of the nuptial couch.

The hymen does not exist in the lower animals, and its

use in the genus homo seems to be of a moral, rather than a physical character. Its existence, at the time of marriage, has always been regarded as evidence of virginity, and its absence as proof of unchastity. Its existence should not, therefore, be regarded as a trivial and unimportant circumstance, for when man ceases to place the highest value upon the virtue of her, whom he chooses to be his life companion, and the mother of his children, society must, indeed, retrograde, and fall into a state of depravity and discord, worse than barbarism.

But this evidence of virginity, or a want of virginity, is liable to many exceptions; and to avoid, with as much care as possible, any unjust reflection upon virtuous females, we have fully explained the whole subject in our chapter on MATRIMONY OR MARRIAGE, to which we refer the inquisitive.

The *Pars Intermedia*, and bulbous vestibule, consist of a series of enlarged and convoluted venous channels belonging to the external organs, and covered in by the labia majora. To give a minute description of these, in a popular work like the present, would not be profitable to our readers. We also find certain sebaceous and muciparous glands, imbedded in these organs, which we shall pass over with this simple notice of their existence.

Let us now proceed to describe the *internal* female genital organs. These consist of the vagina, the uterus or womb, the fallopian tubes, and the ovaries.

THE VAGINA, literally signifying a sheath, is a cylindrical canal, extending from the vulva to the neck of the

womb, which it embraces. It is not, as many suppose, a straight canal, but it is somewhat curved to correspond with the axes of the pelvis; consequently the concavity of the curve is in front, and the convexity behind. It is composed of three tissues, or coats, the external or cellular, the middle or muscular, and the internal or mucous, thus forming a thick, tough canal. Extending the whole length of the vagina, both upon its anterior and posterior walls, we find two columns called the raphe, from which arise numerous transverse folds of mucous membrane, which are called the rugæ. These are most numerous at the inferior portion of the canal, and very distinct in virgins, but almost entirely absent after the birth of several children. Their chief use is evidently to allow of the necessary distention of the canal during parturition.

The vagina is well supplied with blood-vessels, and nerves, which are found in the greatest abundance at the lower extremity. The middle coat contains some erectile tissue, which gives it the character of an erectile organ; and by its outward coat it is connected to the surrounding parts. In front, it is in relation with the urethra and a portion of the bladder; and behind, with the perineum and the rectum. Its middle portion is in contact with the rectum, illustrating, according to the ethics of an old anatomist the truth of the adage, that there is but one step from the sublime to the ridiculous. In the quiescent state, the vagina is never an open canal; but, on the contrary, it is entirely closed by the contact of the anterior and posterior walls. At its orifice we find a few attenuated muscular

fibres, which are denominated the constrictor vaginæ muscle. This is but slightly under the control of the will, which may be proved by throwing an injection into the vagina, when it will be found that the female cannot sufficiently constrict the orifice to prevent the escape of the fluid. Its action is, therefore, involuntary, and just sufficient to keep the parts closed when there is no distending force; but by sexual abuses, various diseases, and frequent parturitions, it loses, in a measure, its healthful tonicity, and as a weary sentinel at the gate of the citadel, performs its duty in a very sluggish manner.

The average length of the vagina may be set down at four inches and a half, and the extremes, in a normal condition, at three inches for the minimum, and six inches for the maximum length. It is shorter and more capacious in women who have borne children, than in the adult virgin. Its average diameter is about one inch, but it is larger in some portions of its extent than in others, being constricted at its commencement, but slightly dilated as it approaches the womb.

The vagina being a curved canal, with the convexity behind, its posterior is always longer than its anterior wall, the difference being nearly one inch.

The average length of the vaginal canal as laid down in many of our text-books upon anatomy, is somewhat overstated. Our attention was once particularly called to this subject, and the frequent examinations, which it has been necessary to make during the course of our practice, and our measurements in the dissecting room, confirm the cor-

rectness of our present estimate. Some of these works make the vagina about one inch longer than our estimate, which is certainly erroneous. Moreover, we never have any trouble in reaching the mouth of the womb with our index finger, which, making all proper allowances for the straight direction of the finger, the vagina being curved, and also for the yielding of the external soft parts upon the pressure of the hand, could not so easily be accomplished, if the estimates of these authors were literally correct.

The orifice of the vagina is sometimes exceedingly rigid, and so firmly contracted, as to resist all attempts at the marriage consummation, even when the hymen interposes no material resistance. A very interesting case of this description came under our treatment a few years ago. A gentleman residing in another state, and occupying a respectable position in society, had been married some three years, and was unable, during that long time, to effect the nuptial right. Of course, he supposed there was some incurable malformation, and resigned himself to his fate with as good grace as he could command. Finally, he concluded to seek medical advice, and after a short correspondence, brought his wife here for treatment. Upon ascertaining the real condition of things, we had a number of bougies made of different materials and various sizes, suited to this particular case, which we very carefully but perseveringly introduced into the vagina, succeeding a smaller by a larger, from time to time, as the condition of the parts might justify. This treatment we accompanied with other

remedial measures calculated to relax the rigid structures, such as injections of warm water into the vagina, warm baths, Belladonna ointment rubbed well upon the rigid structures, and such internal treatment as we deemed appropriate to the general health and the local condition. The result was that in about two weeks we had succeeded in dilating the orifice sufficiently for all practical purposes. We then suggested to the husband that it might not be necessary to carry our treatment further, which seemed to meet his heart-felt approbation; and upon the next day, he came hurriedly into our office, with his face beaming with delight, and looking a little sheepish withal, and exclaimed!—On second thought we will not repeat his language, but the unmistakable signification thereof was that, our dilating services would no longer be required.

THE UTERUS, or womb, is situated in the pelvis, above and in front of the superior extremity of the vagina, between the bladder and rectum, with the small intestines above. Anatomists divide this organ into three parts, viz. : the fundus, which is the upper and broader portion; the cervix or neck, which is the inferior cylindrical portion; and the body, which is all that portion included between the fundus and the neck. The os uteri, sometimes called the os tinæ, or in plain English the mouth of the womb, is the opening of the vaginal extremity of the neck. In the virgin it is somewhat triangular, or circular and very smooth, but in the woman who has borne children it is transverse, and more or less wrinkled or ragged. The lips of the os uteri vary somewhat in size, the anterior

being shorter and a little thicker than the posterior. The vagina is attached to the neck which it completely encircles, so as to leave a portion of the neck projecting into the canal; and the space included between that portion of the neck, and the superior extremity of the vagina, is known as the vaginal cul de sac. This cul de sac is the greatest behind, as the vagina is attached to the neck further up on its posterior than on its anterior portion.

Most persons, not students of anatomy, entertain very erroneous views as to the size and shape of this child-bearing organ. The general impression seems to be, that it is about as large as a man's two fists, having a cavity that will hold about as much as a tea-cup. At the full term of gestation, it is true, the womb attains an enormous bulk; but in the adult virgin, it is a very small organ, being about three inches long, one and a half or two inches wide at its broadest portion, one inch thick, and about one inch in diameter at the neck. It does not usually exceed one ounce and a half in weight. In women who have borne children, however, the unimpregnated womb never entirely returns to its virgin size, but weighs about two ounces and a half. But if it be removed at the full term of gestation, and entirely freed of its contents, it will be found to weigh about three and a half pounds.

The *cavity* of the womb in the adult virgin, is about as large as a split-almond, its walls are nearly or quite in contact, the canal which extends through the neck is not much larger than a large sized pipe-stem, and it is con-

siderably constricted where it opens into the cavity, forming the internal os uteri.

Upon its posterior surface the womb is quite convex, and slightly so upon its anterior surface. In the virgin it is quite flat upon its top; but in the woman who has borne children it is considerably rounded. Its neck, mouth, and lips, which are brought into view by the speculum, are larger and somewhat differently shaped in a woman who has borne a child, than in the virgin. This may be regarded as infallible evidence that the female has borne a child. In form, the womb has been compared to a flask with its mouth turned downward, but a flattened pear will, perhaps, convey a better idea of the general appearance of this organ.

The substance of the womb consists of three structures. The outer, is a covering of peritoneum such as invests the viscera generally; the middle is a thick muscular structure, consisting of transverse, longitudinal, and oblique fibres; and internally we have a lining of mucous membrane. In the neck of the womb we find a number of small glands, which become enlarged during pregnancy, and secrete an abundance of mucous fluid to keep the parts well lubricated. The membrane lining the canal of the neck is arranged into folds, and enlarged during pregnancy, resembling a tree with its numerous branches. This is called the *arbor vitæ*, or tree of life, described by the older authors. Upon the mucous membrane of the uterus, especially in its neck, we find great numbers of minute hair-like projections, so small that they can be seen only

under the microscope. They are called the *cilia*. They are endowed with vitality, and are constantly in motion, resembling the wave-like oscillations of a field of wheat, set in motion by the wind. It was once supposed that they had the important office to fulfill of assisting in the transmission of the male spermatic fluid to its destination. But this is proved to be erroneous, for wherever they are found—and they are found in other passages of the body—their motions are such as to convey the secretions towards the outlet.

The womb is held in its place by the vagina below, and a number of ligaments extending from the organ in various directions. We have the broad ligaments passing off at the sides, the anterior ligament, which passes from the uterus to the bladder, and the posterior ligament, which extends from the posterior part of the neck of the womb to the rectum. These four ligaments, are simply folds of the outer covering of the womb, reflected, as it were, to other organs. We also have two round ligaments extending from the sides of the fundus of the womb to the labia majora, the right being a little shorter than the left, so that during pregnancy the womb is inclined a little to the right side of the mother.

From the position of the uterus, and the yielding character of the ligaments and the vagina, which holds it in position, it is capable of considerable mobility, even in its natural condition. By an over distended bladder, it may be made to yield backwards, and by an accumulation of faeces in the rectum, it may be pushed upon from behind,

and made to yield forwards, and by the pressure of the intestines from above, as in lifting, coughing, or an effort at bearing down, it may be made to sink lower in the pelvis, and by pressure from below upwards, it may be made to rise higher. An explanation of the displacements of this organ, constituting disease, will be found in its proper place.

THE FALLOPIAN TUBES, one on each side, arise from the superior lateral angles of the womb. They are sometimes called the oviducts, that is, the ducts of the ovaries. Every gland that performs any known function must have a duct to convey away its secretion. The ovaries are glands, and the fallopian tubes must be regarded as their ducts. They are four or five inches long and consist of three structures, a serous, muscular, and mucous. They are somewhat funnel-shaped, being hardly large enough where they open into the womb, to admit a small sized knitting-needle, while at the other extremity they are about as large as a good sized goose-quill. Unlike the ducts of other glands, the fallopian tubes are not connected to the ovaries except by a ligamentous cord. Their outer extremities are, therefore, free and somewhat remarkable for being divided into a number of fringe-like processes, called the corpus fimbriatum. These fringe-like bodies seem to be endowed with instinctive life, as they seize the ovaries, and receive into their hand-like grasp the ovum when ripe, and ready to be conducted through the tubes to the womb. It was formerly supposed that this action took place only at the time of sexual intercourse, or under the influence of venereal excitement, and it was called *morsus diaboli*, which signifies,

when translated into plain English, the devil's bite. The appropriateness, as well as delicacy of such a name, we must leave to the imagination of our readers.

The fallopian tubes have a double office to perform. They not only receive the ovum furnished by the ovary, and convey it to the womb, but they also convey the fecundating element of the male semen in the direction of the ovary, till it comes in contact with the ovum, producing fecundation. But this will be explained more fully in our chapter on puberty and generation.

Like other portions of the sexual apparatus, the fallopian tubes are liable to malformations, and diseases, interfering with, or entirely preventing the fulfillment of their healthful functions. But such cases must be regarded as exceedingly rare, and as there are no means by which we can positively determine their existence during life, it is hardly proper, as a general rule, to be influenced by the supposition of their existence, in our efforts to cure sterility in the female.

THE OVARIES.—These are two glandular bodies, situated on either side of the uterus, and connected to that organ by means of rounded cords, called the ligaments of the ovaries. They are flattened, oblong, and ovoid bodies, or almond-shaped, nearly as large as the male testes. They are sometimes called the testes muliebris, which means, the female testes. Being developed in the broad ligaments which consist of two layers of peritoneum, reflected from the womb, their external covering is the same as that of the womb, and also the same as that of the fallopian

tubes. Beneath this we find a tissue of dense fibrous membrane, called the tunica albuginia, because it is a white investment, and still beneath this we come to the true structure of the ovaries called the *stroma*. It is a cellulo-fibrous structure, commingled with some muscular fibres, and abundantly supplied with blood-vessels which give it a bright red color. The stroma, signifying a bed, is so called because it seems to form a sort of concealment or covering for the development of the female germ-cells, which we shall now proceed to describe.

Upon cutting into the ovary, there may be discovered fifteen or twenty small sacks, varying in size from a pin's head to a pea, first pointed out by De Graaf, in 1673; hence, they have received the name of the Graafian sacks, follicles, or vesicles. They are discovered in a rudimentary condition in the ovaries of infants and young children, being limited mostly, at that period of life, to the surface of the ovary, not one coming to maturity till puberty. Each Graafian follicle consists of two membranes adhering to each other, the outer of which is derived from the stroma of the ovary, while the inner is independent of that body, and has adhering to its internal surface a certain amount of very fine granular substance sometimes called the *membrana granulosa*. These membranes constitute the follicle, and the contents of the follicle are an albuminous fluid, certain granular matter, and the ovum.

Keeping in view the difference between the Graafian follicle, and the ovum which it contains, while it remains

in the ovary, a very brief description will suffice to give the reader a sort of general knowledge of this wonderful structure, and its more wonderful phenomena.

The human ovum is exceedingly small, being no more than $\frac{1}{150}$ of an inch in diameter, or the size of a mere pin's point, hardly large enough to be seen distinctly with the naked eye; still it contains all the parts and structures of the egg of the common fowl, or the ostrich. It has five distinct parts, viz. : a granular substance, called the *membrana granulosa*, which adheres to a colorless albuminous membrane, called the *zona pellucida*, which surrounds the vitellus or the yolk; and within the yolk we have the germinal vesicle, and still within that the germinal spot, which is the life-force out of which the new being is to evolve. As these structures can be seen only under the microscope, and as the human egg is obtained with great difficulty, a more detailed description, in a work like the present, would be entirely useless. Its minuteness, but more especially its capabilities, under favorable circumstances, of which we shall have more to say in the proper place, are the chief thoughts connected with this subject, calculated most deeply to impress the reflecting mind with the mystery, as well as the majesty, of nature's forces. Surely man is made from the dust of the earth!

But by what process is the ovum made to escape from the ovary, and the Graafian follicle? The explanation given by physiologists generally, is in substance, as follows: As the follicle and the ovum within advance towards ripening, an increased amount of albuminous fluid is grad-

ually and constantly being collected within the follicle, which pushes it, as it were, toward the surface of the ovary. This pressure constantly continued, is deemed sufficient to cause the absorption of the coverings of the ovary, and also the tissues of the follicle, till they become so attenuated that they lose their power of resistance, when they rupture and the ovum escapes, the fimbriated extremity of the fallopian tubes, at the same time, grasping the ovary to receive and conduct it onward to the womb. This explanation, the reader will observe, makes the process somewhat mechanical; but the process may be entirely physiological, that is, the absorption and rupture of the membranes may result from a special provision of the vital force, without regard to the mechanical pressure upon the parts. We confess that our convictions are decidedly in favor of this latter view.

The remains of the ruptured membranes, after the escape of the ovum, are denominated the *corpus luteum*, literally signifying the yellow body. There are peculiarities about this, which has greatly puzzled investigators. At every menstrual period, as a general rule, an ovum is matured and expelled from the ovary, and if it come in contact with the male sperm-cells, hereafter to be described, and pregnancy follows, we have a *corpus luteum* entirely different, in many particulars, from that which we find in the unimpregnated female. In the latter case it is seldom larger than a small sized pea, and immediately begins to contract, and in six or eight weeks entirely disappears, leaving for a time, a slight cicatrix or scar, such as might

be observed in the healing of the other tissues. In the former case, the corpus luteum is slightly puffed out upon the surface of the ovary, and attains a size covering one-fourth or even one-half of that organ. It does not begin to diminish in size till the fourth or fifth month, and it does not entirely disappear till three or four months after delivery; its whole duration, therefore, being twelve or thirteen months. In both cases, this body has, at first, a bright red color, then a yellowish color which continues more or less to the last, and in both cases the Graafian follicle and the scar are at last absorbed, leaving nothing but a little pit-like depression. By this frequent obliteration of the follicles, which takes place during the menstrual period of the female, the ovary, in advanced life, presents a number of little furrows or pits as the seats of corpora lutea.

The attempts of physiologists to explain the causes of all these phenomena, have given to the profession many theories, which we cannot introduce in this work. Coste had his theory; Churchill has given us an explanation somewhat different; and our own beloved Professor Meigs has succeeded in making a corpus luteum for his own special purpose.

The doctrine expressed in the three latin words, *omnia ex ovo*, which literally translated reads, all things from an egg, but which is used to express the doctrine that all *living* things are derived from eggs, was first established by the illustrious Harvey, and the rapid advancement of medical science since his time, instead of refuting, has confirmed

the truth of this most wonderful and sublime conception. For we now know that all living things, whether they belong to the vegetable or animal kingdom, have their commencement in the egg formation, and whether the egg be large or small, or a mere speck that can be seen only under the microscope, there resides within its structure, all the characteristics, and all the peculiarities of the full grown species, and individuals. This is certainly a mystery, infinitely above the comprehension of finite beings, and cannot fail to impress the thoughtful mind with the existence and presence of an immutable Infinite Cause. Harvey was by no means insensible to such impressions, when he gave utterance to the following language, translated from his works:

“A more sublime and divine Artificer than man seems to make and preserve man; and a nobler agent than a cock doth produce a chicken out of the egg. For we acknowledge our omnipotent God and most high Creator to be everywhere present in the structure of all things living, and to point himself out by his works, whose instruments the cock and the hen are in the generation of the chicken. For it is most apparent that in the generation of the chicken out of the egg, all things are set up and formed with a most singular providence, divine wisdom, admirable and incomprehensible artifice. Nor can these attributes appertain to any but to the omnipotent Maker of all things, under what name soever we cloud him, whether it be the *mens divina*, the divine mind with Aristotle; or *anima mundi*, the soul of the universe with Plato;

or with others the *natura naturans*, nature of nature himself; or Saturnus or Jupiter with the heathen, or rather as befits us, the Creator and Father of all things in heaven and earth, upon whom all animals and their births depend, and at whose beck and mandate all things are created and begotten."

CHAPTER II.

MALE GENITAL ORGANS.

The penis, its form, dimensions, structures, attachments, etc.—The urethra, its curving direction, varying size, elasticity, prominences, depressions, etc.—A thorough knowledge of its anatomy necessary to treat strictures of the urethra—How the prepuce is formed—Circumcision, its origin, uses, etc.—The glands—The scrotum, its form and structures—The testes and their appendages—Epididymis, vas deferens, seminal vesicles, ejaculatory ducts, etc.—Secreting structure of the testes consisting of minute tubes 3780 feet long—The passage of the semen—The spermatozoa, or male sperm-cells, their minuteness, forms, brisk motions, etc.—The reproductive element of the male semen—Are they real animalcules? Have they a sexual system?—Their union with the ovum—Curious conjectures—Hereditary tendencies in the spermatozoa and ovum—Important suggestions.

IN the preceding chapter, we have endeavored to give the reader a clear description of the anatomy of the female genital organs, some of their uses, diseases, and malformations, and also, to remove certain erroneous notions concerning their forms, structures and functions. The functions and diseases of the genital organs, however, will be more fully described, in the future chapters of this work. The present chapter will be devoted to a description of the male genital organs; and, as many intelligent persons, not

educated in medical science, necessarily entertain erroneous views concerning some portions of these organs, we shall find, as in the preceding chapter, many errors to correct.

THE PENIS is the external pendant organ at the inferior and front part of the body. *Penis* is a Latin word without change of termination, and if we wish to use it in the plural number it must be written *penes*; but it is so commonly used by English writers, as the most proper name for the male pendant organ, that almost every person is familiar with its use, and it may now be regarded as an English word. This organ is sometimes called the virile organ, the virile member, etc., merely for a change of words; and in some books it is called the *yard*. But this latter name is both vulgar and inappropriate; to carry the joke a little further we might, with equal propriety, call this member, the furlong, perch, or pole, or designate it by any other word used to measure space or distance. A man who has brains enough to write a book, ought not to commit such blunders as introducing the word *yard* to designate the member under consideration.

From the attachment of this organ at the pubic bone to its extremity it is about six inches and a half long, and from the external soft parts covered with hair it is about five inches and a half long, and for the purposes of sexual congress, about four inches and a half long, corresponding with the length of the vagina. The reader will of course understand us to speak of the average size. Like other appendages of the body the size of this organ varies, in different individuals. There is a silly and vulgar notion

among some people, that this organ is larger in small men than in large men. But when this is the case, it is an exception to a general rule. A small man *may* have larger feet, hands, eyes, nose, and ears than a man much larger than himself; but the rule is, the larger the man, the larger are all the appendages of the body.

This organ is divided by anatomists into three portions; the root, the body, and the extremity. The root is bifid or split into two parts, called the crura or legs, which are firmly attached to the rami of the pubis and ischia; or what is definite enough for the general reader, they are attached to the front part of the pelvic bones. It also has other strong connections about the pubes, and it cannot be easily torn from its attachments. If now we remove the integument, and dissect out the parts beneath, which compose the principal bulk of the organ, we shall find that it consists chiefly of two structures, called the cavernous and spongy bodies. The cavernous bodies form the upper and lateral portion, making about three-fourths of the bulk of the organ. They lay side by side, like the two barrels of a double-barreled gun. The spongy body lies beneath, and resembles the ramrod of such a gun, being, however, a little larger in proportion. These parts are all firmly held together by the integument which covers them and the cellular structures beneath. The extremity of the penis is called the glans penis, sometimes its head; and its general form is conical. It is simply an enlargement of the spongy body. At the apex there is a small vertical slit, the meatus urinarius, and beneath and extending a little backwards,

there is a slight notch in which is attached a small fold of membrane derived from the foreskin, which is called the frenum or bridle. This is sometimes too short, bending the glans downward when the organ is erected, and producing considerable pain. In such a condition it should be clipped off by the surgeon. At the base of the glans, there is a prominent rim or edge called the corona glandis, the crown of the glans, behind which there is a constriction called the column or neck, which is exposed when the fore-skin is drawn back.

THE URETHRA is a membranous canal, extending from the meatus urinarius through the spongy body of the penis, and thence into the bladder. This canal is divided into three portions. Commencing at the bladder it passes through the prostate gland, which is called the prostatic portion, and is about one inch in length. Next comes the membranous portion, as it is called, which is between the prostate gland and the spongy body of the penis, and is hardly an inch long. This is the smallest part of the urethra. The remaining portion is called the bulbous, and it extends from the bulb, or internal extremity of the spongy body, to the meatus urinarius. The urethra is much larger in some portions of its extent, than in others. Where it commences at the glans it is constricted; it then enlarges for about an inch; it is then smaller, but gradually enlarges as it approaches the bulb; it is then small for nearly an inch, when it again enlarges as it reaches the bladder. This canal is also curved, and much more curved in some parts than in others. It has a number of ducts

opening into it, as it approaches the bladder, and there are many little prominences and depressions in various portions of its extent. Hence it is important that every medical man who performs any sort of operations for the cure of diseases of these parts, should have their minute anatomy thoroughly fixed in his mind. It is especially dangerous to attempt the treatment of strictures of the urethra without such knowledge. The danger in such cases, arises from the liability of producing lacerations and punctures, and making false passages, which might entail life-long misery upon the patient. In addition to a thorough knowledge of the anatomy of the urethra, great caution must be used as to the condition of the parts, and the kind of instruments best suited to each case. Many physicians, not possessing such knowledge, have the honesty to decline such difficult cases altogether, while others equally unscientific, perhaps, are so fool-hardy as to attempt their treatment, as though it were a very simple affair. But their works follow them, and in a majority of cases, their patients are the miserable victims of such presumptuous folly. Many cases of the kind have come under our care. Patients, therefore, labouring under this distressing affection, cannot be too cautious into whose keeping they commit themselves. But more upon this subject in its proper place.

The skin of the penis is very thin, and very loosely connected to the parts which it surrounds; and what may appear remarkable, it never contains any deposit of fatty tissue. However corpulent, therefore, a man may become

there is no enlargement of this organ by the accumulation of fatty tissue. Like the nose, and the ears, etc., it remains the same as before, and the thoughtful reader will perceive that this is a wise provision of nature. The front portion of this integument forms the prepuce. This is simply a doubling of the skin, the surface of the inner fold coming in contact with the glans, partaking of the character of mucous membranes. When it is drawn forward it covers the glans, but when the organ is erected, and it is drawn backwards, which takes place in the intercourse of the sexes, the folding of the skin disappears, and its mucous surface, comes in contact with the mucous surface of the vagina of the female.

Circumcision consists in the removal of a large portion of the prepuce; and it is observed at the present day by the Jews, and to some extent, by the Mahometans, *as a religious rite*. But there can be little doubt that it had its origin in what was conceived to be a physical necessity. For circumcision would, no doubt, to some extent, prevent masturbation, and other sexual abuses; for the glans being constantly uncovered, become harder, and are not so easily excited by any slight frictions; also, it may to some extent, be a slight protection against venereal diseases, as the parts cannot be so easily impressed with the venereal poison. Now when we consider that the ancients, long before Moses received the law upon Mount Sinai, were generally given over to the gratification of their sexual lusts, it is not difficult to conceive that this custom had its origin as a physical necessity. It is also reasonable to sup-

pose that, in coition, the circumcised cannot so readily impress the female, nor be impressed so readily himself, as there is less sensitive surface coming in contact with the vagina.

In this connection we may notice certain glands, which appear to be mere appendages of the penis. The prostate gland is a hard firm body, about the size of a large horse-chestnut, situate at the neck of the bladder, the urethra passing through it, as we said in describing that canal. Two-thirds of it lies behind the urethra toward the rectum. It is somewhat conical in form with its apex directed forwards and downwards, and its base towards the bladder. Anatomists describe it as consisting of three lobes. It is a little convex upon its posterior side, and can be felt by the finger of the surgeon in the rectum, and is a guide in many examinations and operations, upon parts situated within the pelvis of the male. This gland has fifteen or twenty ducts opening into the prostatic portion of the urethra. It is sometimes inflamed, and enlarged, and makes pressure upon the urethra, obstructing the passage of the urine. In old men its gradual enlargement is sometimes very distressing, producing the sensation of a bearing-down pain, and interfering with micturition. Such patients should have mild, but skillful treatment. There are two little glands, about the size of peas, situated immediately beneath the membranous portion of the urethra, each having one duct which extends forward about three-quarters of an inch, and opens into the bulbous portion of the urethra. In addition to these, we find numerous little glands, situate

in the mucous tissue, through the whole extent of the bulbous portion of the urethra, with their ducts directed forwards.

THE SCROTUM is the pouch containing the testicles suspended within by the spermatic cord. It hangs from the root of the penis, the left side dropping a little lower than the right. A raphe or line divides the scrotum into two lateral halves. It is continued backwards through the perineum, and forwards, though not so well marked, along the under surface of the penis. The scrotum consists of two coats, the external being the integument, and the internal closely adhering to it, being called the dartos. The dartos consists of contractile tissue. It is sometimes quite flaccid, at other times, it is corrugated, drawn up, closely hugging the testicles. The application of cold will produce such corrugation, or puckering; while a moderate degree of warmth tends to relax the parts. In cold weather when a person does not keep warm, such puckering is common, but in warm weather when a man cannot keep cool, relaxation is found to exist. The dartos sends inwards a septum, or partition, as it were, dividing the sack into two distinct cavities, one for each testicle.

THE TESTES.—The word testis is the singular of testes, and literally signifies *witness*, because the existence of these organs is the evidence of man's virility. In the foetus they are situated in the abdomen, immediately in front of the kidneys, but they begin to descend about the seventh or eighth month of gestation. They are two small, oblong glands, convex in front, somewhat rounded upon their

sides, and slightly compressed behind, and with all their coverings, are about the size of a pullet's egg, but the glands themselves, when divested of all their coverings, are seen to be no larger than a pigeon's egg. Their situation in the scrotum is somewhat oblique, their superior portion being directed a little forwards and outwards, and their inferior extremity a little backwards and inwards. Lying upon the posterior aspect, and extending from the upper to the lower extremity, we find a small body flattened from before backwards, called the epididymis, from two Greek words signifying upon the testicle. The upper extremity of this body is called the globus major, the lower extremity the globus minor. In addition to the skin and dartos, the testicle is covered in by three tunics; first, the tunica vaginalis; second, the tunica albuginea; and third, the tunica vasculosa. The tunica vaginalis is suspended from parts above the testicle, with which it is blended. It is a shut sack of serous membrane, and of course, consists of two layers. Fold your handkerchief, then place it around an orange, and the orange would have a double covering of the handkerchief; in like manner the testes get a double covering of serous membrane. The external layer of the sack is called the tunica vaginalis reflexa because it is reflected, or derived, from the inner tunic, which is called the tunica vaginalis propria, because it is the proper covering of the testicle; the former is connected to the dartos by means of very loose cellular tissue, and the latter is closely adherent to the tunica albuginea. The inner layer is also reflected around the epididymis con-

necting it to the testicle. The two surfaces of the tunica vaginalis do not adhere together, but they are remarkably smooth, and glossy, like all serous sacks; and they are kept moist by a proper secretion of serous fluid, thus allowing motion between their surfaces without friction. The tunica albuginea is a fibrous membrane of sufficient thickness and firmness to give form to the testicle. This tunic, at the posterior part of the testicle, is reflected into the gland, and forms a projecting ridge extending the length of the gland, which is called the mediastinum, sometimes called the corpus highmorianum. This contains the vessels and ducts of the testicle in their passage into the substance of the organ. The tunica vasculosa, is an extremely attenuated and delicate membrane, situated immediately within the tunica albuginea, inclosing the substance of the testicle. This membrane sends processes into the substance of the testicle, which intervene between all the lobules of that organ. It is a nutrient membrane containing the blood-vessels which supply the organ with blood.

The minute structure of the substance of the testicle is of great interest to anatomists and physiologists, and should be studied more thoroughly by medical men generally, and for the benefit of medical students and physicians who may give this book a perusal, we will here introduce an elaborate and very accurate description of the substance of these glands, and some of their appendages, from Wilson's Human Anatomy, one of the most popular text-books in English and American medical schools. We will then

endeavor, as much as possible, to simplify the whole description for the benefit of the general reader.

“The substance of the testes consists of numerous conical flattened *lobules*, the bases being directed towards the surface of the organ, and the apices towards the mediastinum. Krause found between four and five hundred of these lobules in a single testis. Each lobule is invested by a distinct sheath, formed of two layers, one being derived from the tunica vasculosa, the other from the tunica albuginea. The lobule is composed of one or several minute tubuli, *tubuli seminiferi*, exceedingly convoluted, anastomosing frequently with each other near their extremities, terminating in loops or in free cæcal ends, and of the same diameter throughout, $\frac{1}{170}$ of an inch, according to Laugh. The tubuli seminiferi, are of a bright yellow color; they become less convoluted in the apices of the lobules, and terminate by forming between twenty and thirty small straight ducts of about twice the diameter of the tubuli seminiferi, the *vasa recta*. The vasa recta enter the substance of the mediastinum, and terminate in from seven to thirteen ducts, smaller in diameter than the vasa recta. These ducts pursue a waving course from below upwards through the fibrous tissue of the mediastinum; they communicate freely with each other, and constitute the *rete testes*. At the upper extremity of the mediastinum, the ducts of the rete testes terminate in from nine to thirty small ducts, the *vasa efferentia*, which form by their convolutions a series of conical masses, the *coni vasculosi*; from the bases of these cones tubes of larger size proceed, which

constitute, by their complex convolutions, the body of the epididymis. The tubes become gradually larger toward the lower end of the epididymis, and terminate in a single large and convoluted duct, the vas deferens.

“The epididymis is formed by the convolutions of the excretory seminal ducts, externally to the testes, and previously to their termination in the vas deferens. The most numerous convolutions, and the aggregation of the con vasculosi at the upper end of the organ, constitute the globus major; the continuation of the convolutions downwards, is the body; and the smaller number of the convolutions of the single tube at the lower extremity, the globus minor. The tubuli are connected together by a very delicate areolar tissue, and are enclosed by the tunica vaginalis.

“A small convoluted duct of variable length, is generally connected with the duct of the epididymis immediately before the commencement of the vas deferens. This is the vasculum aberrans of Haller; it is attached to the epididymis by the areolar tissue in which that body is enveloped. Sometimes it becomes dilated towards its extremity, but more frequently retains the same diameter throughout.

“The vas deferens may be traced upwards in the course of the seminal fluid, from the globus minor of the epididymis along the posterior part of the spermatic cord, and along the spermatic canal to the internal abdominal ring. From the ring it is reflected inwards to the side of the fundus of the bladder, and descends along its posterior surface, crossing the direction of the ureter, to the inner

border of the vesicula seminalis. In this situation it becomes somewhat larger in size and convoluted, and terminates at the base of the prostate gland, by uniting with the duct of the vesicula seminalis and constituting the ejaculatory duct. The ejaculatory duct, which is thus formed by the juncture of the duct of the vesicula seminalis with the vas deferens, passes forwards to the anterior extremity of the veru montanum, where it terminates by opening into the prostatic urethra. * * * *

“On the under surface of the base of the bladder, and converging towards the base of the prostate gland, are two lobulated and somewhat periform bodies, about two inches in length, the vesiculæ seminales. Their upper surface is in contact with the base of the bladder; the under side rests on the rectum, separated only by the recto-vesical fascia; the larger extremities are directed backwards and outwards, and the smaller ends almost meet at the base of the prostate. They enclose between them a triangular space, which is bounded posteriorly by the recto-vesical fold of peritoneum, and which corresponds with the trigonum vesicæ on the interior of the bladder. Each vesicula is formed by the convolutions of a single tube, which gives off several irregular cæcal branches. It is enclosed in a dense fibrous membrane, derived from the pelvic fascia, and is constricted beneath the isthmus of the prostate gland into a small excretory duct. The vas deferens, somewhat enlarged and convoluted, lies along the inner border of each vesicula, and is included in its fibrous investment. It communicates with the duct of the vesicula

beneath the isthmus of the prostate and forms the ejaculatory duct."

There reader! unless you are a laborious student of medicine it is not expected that you can fully and accurately comprehend the above description. To have a complete knowledge of all such complicated structures of the human body, requires all the facilities and aids found in our best medical schools, such as dissections, preparations, casts, plates, etc., and in addition to all these, *good teachers*. It must be remembered that our medical science is not the growth of a day, but has come down to us by piece-meals; like every other science, one investigator contributing his mite, another adding a little more, and so on, until we have a noble and sublime structure, complete in many of its parts, but in other parts, quite imperfect, but advancing as rapidly as can be expected in the nature of things.

As regards these glandular organs, and their appendages, let the general reader bear in mind the following facts, which we have simplified as much as possible. The substance of the testicle is composed of minute tubes, which are divided into four or five hundred parcels, called the lobules of the testis. These are much convoluted, are situated transversely in the testicle, and each lobule converges to form a single straight duct; these latter pass into other ducts, which are situated longitudinally in the testes, and pass through the upper extremity of the organ, again becoming greatly convoluted, and passing downwards along the posterior aspect, forming, with its coverings the epididymis, a flattened body which can be felt between the

thumb and finger. At the lower extremity the epididymis curves outwards and upwards, and forms a single tube, called the vas deferens, which at the posterior part of the epididymis feels like a hard firm cord, about as large as a knitting-needle. After extending upwards and forwards into the abdomen, as one of the structures of the spermatic cord, it dips down into the pelvis, and passes along the under surface of the bladder, where it comes in contact with the seminal vesicles. The seminal vesicles do not consist of many tubes, like the lobules of the testes, but each consists of one tube so convoluted as to be about two inches long; but when carefully dissected and drawn out its full length, is about five inches long. Now the ducts of the seminal vesicles communicate with the ducts of the vas deferens in front, and the union of these form the two excretory ducts, opening into the urethra near the ducts of the prostate gland. It will, therefore, be observed that the convoluted tubes constituting the seminal vesicles are entirely distinct from the tubular structure of the testicles. While the epididymis, and the vas deferens, are mere prolongations of the structure of the testicle; the seminal vesicles, though tubular, are entirely independent of their structure. Now the seminal vesicles may be regarded as reservoirs for the semen, till it is absorbed or expelled from the body. Where the ducts of the vasa deferentia communicate with the ducts of the seminal vesicles, there is an arrangement, which causes the semen, when it reaches that point, to pass backwards into the seminal vesicles, there to remain till absorbed or expelled from the body.

In the latter process, the action of the muscular tissue about the seminal vesicles, and their ducts, places the passage in such a position, and exerts so much force upon the semen, that it is rapidly expelled through the ejaculatory ducts into the urethra, and through the urethra out of the body. The reader should bear in mind, that the semen is constantly being secreted by the testes, and constantly being conveyed into the seminal vesicles, and that it is expelled from the body, in a state of health, only under the influence of sexual excitement.

We have said that the substance of the testicles consists of minute tubes. In the extract from Wilson these are called *tubuli seminiferi*, and according to the best estimates, there are about 840 of these in each testicle, and each tube is about two feet and three inches long. Now if this tubing could be dissected out, unravelled, and placed end to end, we should find 1890 feet in one of the testicles, and in both of them 3780 feet, or nearly three-quarters of a mile. This will give the reader an idea of the minuteness of the secreting structure of these organs. There is a world under, as well as over the microscope. ¹

But we now come to consider the function of the testicles, or their elaboration of a material, which is indispensable in the reproduction and perpetuation of the species, a subject of the deepest and liveliest interest to all intelligent readers. When upon the female genital organs, we showed that the function of the ovaries consisted in furnishing the germ-cells or ova, which was the female element in the reproduction of the species. In like manner the function of

the male testicles consist in furnishing the sperm-cells, which is the male element of reproduction, the union and growth of these two elements producing a new being.

The semen of the male appears to the naked eye like a muco-semi-liquid, or jelly-like substance, without life or the power of motion ; but if we take a small quantity of it from a healthy person, who has attained to puberty, and place it under a microscope of sufficient magnifying power, we shall discover that it is literally alive with minute filamentous bodies. These bodies, therefore, have an independent life and power of motion. They are shaped very much like the brain and spinal cord, when dissected from their bony cavities, and exposed to view ; and this resemblance opens up a subject for the speculation of the curious in physiological science ; but as no facts can be demonstrated from such speculative theories, we will not here indulge in them, at the exclusion of more important matter. We will, however, remark that some investigators have drawn the inference from such resemblance, that these little bodies consist entirely of nervous tissue, that the primordial element of every living creature consists of nervous tissue, and that all the other tissues and elements of the living body depend upon the nervous system for their existence and perpetuation.

But these little bodies are described by physiologists, as resembling in their general form, the tadpole ; and, if we imagine the tail of this infant animal to be much longer and smaller than it really is, in proportion to its body, the resemblance is accurate enough. But how exceedingly

minute! According to the best investigators their bodies are about $\frac{1}{8500}$ of an inch long, and their tails about $\frac{1}{600}$ of an inch long. When upon the female ovaries we pointed out the fact that, the ovum furnished by these glands is no larger than a pin's point, or about $\frac{1}{150}$ of an inch in diameter; but the whole length of one of these bodies is much less than the diameter of an ovum. From these statements will the reader endeavor to form an idea of the exceeding minuteness of the male sperm-cells?

When these minute bodies were first discovered, and for a long time afterwards, they were regarded as animalcules, that is, little animals having a stomach and other organs belonging to all animals. Under this notion, they were called spermatozoa, from two Greek words, signifying sperm-animals, and this name is generally in use at the present time. Spermatozoa is the plural, and spermatozoon the singular number.

As the female ova have their origin, and development in cells, so the spermatozoa originate and ripen in cells, which are formed within the tubuli seminiferi of the testicles. When fully ripe the cells burst and the spermatozoa escape, and are mixed with other secretions on their passage to the seminal vesicles and also with the secretions of the seminal vesicles themselves, and when ejected from the body, they are mixed with other secretions in the urethra. But a small portion of the semen, therefore, consists of these spermatozoa, still tens of thousands of them may be thrown from the body at each sexual congress. What waste of material! showing the wisdom of the

Creator in making abundant provision for the certain perpetuation of the species. The same thing is observed in all vegetable and animal productions. But few acorns are trodden into the soil and produce new oaks, and but few of the spawn of fishes are developed into new fishes, otherwise the ocean could not contain them.

The motions of these spermatozoa are affected by the density of the secretions or fluids with which they may be mixed. If very dense, their motions will be impeded, but if too thin, they may be dissolved and destroyed. When the female organs are in a healthy condition, and the spermatozoa find their way into the womb, or fallopian tubes, though fecundation does not take place, they retain their power of motion for more than twenty-four hours, showing that the healthy secretions of the female organs are favorable to the prolongation of their vitality. But if the secretions are acrid, or unhealthy, they may quickly destroy them. Cold water, alcohol, mineral acids, metallic salts, and some other chemical agents, will produce the same effect. Hence the doctrine of the prevention of pregnancy, though a humbug, deception, and immorality, in the hands of advertising quacks, is still a matter of science wisely kept from the knowledge of the masses.

When the spermatozoa were first discovered, investigators were wrapped in amazement, and with strained eyes, and microscopes much inferior to those we now possess, they saw many wonderful things, some of them, doubtless, existing merely in the imagination. One observer thought they were very sportive, and declared he saw them jump-

ing over each other, and playing like little kittens; another thought he saw quarrels among them, which grew into fierce and deadly attacks upon each other; and still another enthusiast declared that he saw a rebellion among them, that they were drawn up in line of battle, and pitched into each other without mercy, but he says nothing about the impliments of warfare; and still another deluded fellow declared, in the most enthusiastic and positive terms, that they were of both sexes, that he saw such caresses among them, as are produced by the sexual passion alone; and that they even gave themselves up to sexual intercourse, under his very eye, without the appearance of shame upon their countenances.

But badinage aside, it has been supposed that the spermatozoa consist of both sexes, and that the sex of the future being depends upon the sex of the spermatozoa, which unite with the female ovum. This, however, is a mere theory, lacking confirmation; but, at least, as good as most others that attempt to account for the determining cause of the sex. Indeed if we admit this theory to be correct, and we wish to inquire into the *original* cause of the sex, we shall be obliged to go back one step further, and inquire what causes the sex of the spermatozoa; and in such an inquiry we are entirely in the dark, for there is a limit beyond which we cannot go in our investigations; showing that we are finite, and cannot explore that which is infinite, but must end our inquiries by resolving them, at last, into nature's omnipotent and incomprehensible forces.

The theory that the spermatozoa are real animalcules, possessing a stomach and other organs constituting an animal, is not maintained by most physiologists at the present day. Carpenter, one of our greatest lights in physiological science, thinks they cannot justly be regarded as proper animalcules. Their power of motion he considers analogous to the reproductive particles of plants, which, in many cases, exhibit a spontaneous motion of extraordinary activity, after they have been set free from the parent structure. In this respect, they have also been compared to those minute hair-like processes found in the neck of the womb, air-passages, etc., called the cilia, which are so small that they cannot be seen without the aid of the microscope. They are constantly in motion, and when separated from their attachments, still retain the power of motion for a time. But such reasons are far from demonstration; and for ought we can prove to the contrary, these minute particles may be real animalcules. We may have our theories upon this subject, but at present, we must rest content with them; we cannot have demonstration.

But without going too far into mere speculation, enough is positively known about these spermatozoa to excite the wonder and admiration of every intelligent, reflecting mind. We know that their forms are precisely as we have described them, and that they are endowed with brisk motions, when alive and vigorous, for we distinctly see them under the microscope; we know that their bodies are about $\frac{1}{8500}$ of an inch long, and that their slender tails are

about $\frac{1}{600}$ of an inch long, for we can make these calculations accurate enough, by knowing the magnifying power of the microscope under which we see them; we know, that when they are thrown into the vagina, their motions are vigorously directed towards the womb and the fallopian tubes, and that the most vigorous reach their destination, unless some obstruction intervenes to prevent their passage; and we also know that they are the reproductive element of the male semen, and that the union of one or more of them with the ovum constitutes fecundation, and is the commencement of a new being, needing the womb for a home, and nutrition from the mother's body, till it is capable of an independent existence. Other matters are clearly demonstrated, concerning the spermatozoa of different animals, which we will not here dwell upon.

In the preceding chapter, we stated that all the peculiarities and hereditary tendencies of the mother were wrapped up in the ovum, and impressed upon her offspring. The same remark is appropriate to the spermatozoa of the male parent. In some subtle and mysterious manner, the peculiarities and hereditary diseases of the father, are incorporated in the minute sperm-cells, and are impressed, more or less, upon the future progeny. The hereditary diseases of one of the parents, it is true, are not always fully developed in the offspring, because the physical condition of the other, sometimes being the opposite, counteracts, in a measure, the hereditary tendency; but when the physical condition of both parents is the same, any hereditary tendencies become much stronger, and are more likely

to descend to future generations. The same reasoning applies to the peculiarities and diseases of the mind, and there is not a physician living, who has earned a just reputation of being skillful, who cannot trace the diseases and weaknesses, both of the body and the mind, from the parents to their offspring.

CHAPTER III.

PUBERTY AND GENERATION.

Sexual development—Menstruation in girls, and seminal fluid in boys—The period of puberty—Great variations—Premature and delayed menstruation—How often do the menses occur—The lunar superstition—Whole period of menstrual life—Interesting cases—Nature of the fluid, its odor, its odor in the breath, etc.—Is it blood or a secretion?—Why it does not coagulate like blood—Its source and uses—How is it connected with child-bearing?—Generation a condition of puberty—The sexual organs, amours, and generation of plants, and the lower animals—Interesting cases—Generation in the genus homo—Amusing theories of the ancients—The true theory established by modern science—When and how the ovum and spermatozoa come in contact—The mechanical, chemical, and vital forces of the vagina, womb, fallopian tubes, and ovaries—The ultimate vital principle.

MUCH has been said and written about the critical period or change of life, as it is usually called, when woman ceases to menstruate and bear children, and begins to descend towards the weakness of old age. Now this, it is true, is a period fraught with more or less danger, the patient being liable to various affections, which before were entirely absent, or had lain dormant in the system; and skillful treatment is often necessary to insure the health of the patient in after life. But the great change

of life, the period when the sexual passions and capabilities are unfolded, and the sexes are drawn towards each other by the impulse of love, is the most critical and dangerous that can occur in the life-time of a human being.

This period is technically called PUBERTY. In girls it is characterized by a sanguineous discharge from the vagina, known by various names presently to be noticed; in boys, the secretion of the seminal fluid commences, which, at first, is thin and watery, but becomes more consistent and fructifying as the youth attains adult life.

In all latitudes and in all races puberty appears earlier in girls than in boys, and Buffon, a French author, attempted to explain the cause of this difference by the quaint remark, "that man being naturally stronger and more robust than woman, nature ought to employ more time in his development." This, however, is no explanation at all, and the question admits of none. We might as well try to explain why trees are not animals, and birds are not fishes. In all such inquiries we must go back to the great first cause, and can only say that such is the decree of Heaven.

Immediately before puberty we often observe more or less languor, debility, and sickness, as though nature was bestowing all her efforts on this great functional revolution, and permitting a temporary diminution of the force and vitality of other organs. If the youth is at school, he will be inclined to remain away; he will be averse to any severe exercise of body or mind; his thoughts will be unsettled and wandering, and his lessons the greatest

drudgery to him. At such times the youth should be allowed some relaxation from bodily and mental toil. Teachers and parents should, therefore, be fully alive to this subject, that they may properly guide those committed to their care.

But when this revolution is fully accomplished, a healthful reaction takes place, and all the other powers of the system are nourished and invigorated; and, if diseases previously existed, such as scrofula, chlorosis, convulsions, etc., they will often be held in check, or entirely disappear. And now comes a settling and strengthening of the whole system, and there is a rapid increase of the whole body; the bones and muscles become harder and firmer, the joints are more enduring and reliable; the chest and respiratory organs more capacious; the genital organs increase with the rest of the body, and in males particularly, the voice becomes hoarser and fuller, being changed from the shrillness of childhood to the fullness and depths of adolescence.

In the female, there is a sudden and rapid development of the breasts, hips, pubes, thighs, and calves of the legs; her eyes become more brilliant and expressive, a new loveliness appears on her countenance, and there is a new elegance of her form and figure. But unlike the other sex, there is not a total change in her original constitution. In other words, the change from childhood to adult life is not so complete in some respects as in the male sex. The texture of her organs never lose all their original delicacy and softness; they never assume the strength and firmness

of those of man, neither does she so completely part with the mental characteristics of her childhood, for she is always delicate and tender, instinctively leaning upon him who is appointed to be her protector and her support. And he who would cheerfully and properly discharge the domestic obligations resting upon him, as a husband, should never lose sight of this difference between the sexes.

Puberty in the female, as we have already intimated, is characterized by the menstrual discharge, which is of sufficient interest to claim our special attention.

The technical names for the menstrual discharge are the *catamenia*, and the *menses*; but it is more commonly spoken of as the *monthlies*, the *courses*, and the *monthly turns*, and women very often speak of being *unwell*, not meaning that they are sick, but that their menses are upon them. They will also speak of having a *show*, meaning that their menses have appeared; or, that they have not *seen anything*, meaning that no discharge has appeared. The term menstruation relates to the function or action, which furnishes the menstrual fluid, or the act of menstruating; but the word menses relates to the fluid itself. Physicians do not ask ladies if they have had their menstruation regularly, but if they have had their menses, or if they have menstruated regularly, etc.

In a state of health and in a temperate climate this function usually makes its appearance for the first time somewhere between the thirteenth and sixteenth years of age, a larger number, according to the best observers, oc-

curring in the fifteenth year than at any other time. Mr. Robertson, an English observer of no mean acquirements, has carefully noted the time of the first menstrual flux in four hundred and fifty-two women in his own country, and arranged them into a table as follows :

In the 11th year.....	10 women
“ 12th “	19 “
“ 13th “	53 “
“ 14th “	85 “
“ 15th “	97 “
“ 16th “	78 “
“ 17th “	57 “
“ 18th “	26 “
“ 19th “	23 “
“ 20th “	4 “

Let it be observed, in this connection, that there are many circumstances, which hasten or retard the menstrual flux. Indolent habits, obscene pictures, lewed and vicious examples, stimulating diet and beverages, and a warm climate, are some of the circumstances which prematurely develop this function, and *vice versa*. When this function appears at an early age, it will, as a general rule, cease at an early age, and the woman will lose her capability of bearing children, and also feel the approach of old age, at an earlier period than another, whose menstrual show does not make its appearance so early.

This may be set down as an inexorable law, and it should

impress parents with the importance of rearing their offspring in paths of virtue and honest industry. This thought suggests another, of which every mother should be fully apprised, viz., when the menses first appear, they are not always fully established; two or three months or even a whole year may elapse before they appear the second time; and it may be a number of months or even two or three years before they become permanently and regularly established. In such cases, medication may, or may not, be required. If the girl's health, in any measure, flags, or if any of the usual symptoms of suppression of the menses make their appearance, such as headache, and fever, skillful medication is of the utmost importance; for by it the patient may be saved from a broken-down constitution, and various uterine complaints, that would render her life ever after one of misery and regret.

We have said that menstruation usually occurs between the thirteenth and sixteenth years of age; but it is well to remember that it sometimes occurs much earlier, and also much later than this, which the reader will observe by a glance at the foregoing table. And it *may* occur before the eleventh and after the twentieth year. Such extreme cases, have come under the author's observation a number of times. In all such cases, however, we may expect to find some faulty development of the organs of generation, or some abnormal or diseased condition of the uterine system, or some deficiency or disturbance of the vital forces of the system. Such cases, therefore, require a very careful scrutiny, and when they come under the care of the

physician, he should not shrink from their investigation, but should bring to his aid the best lights of the profession, and endeavor to ascertain the real trouble, and, if possible, remove it. WORK must be the watchword of the physician, who would become skillful in the practice of his profession.

But how often does this function occur? As a general statement it is said to occur once a month, meaning every calendar month, or twelve times a year; hence we have the term *monthlies* as applied to this function. But this statement is far from being accurate. As a general rule they occur once every twenty-eight days, which is nearly a lunar month, making about thirteen times a year. From this coincidence, some of the ancients, especially the Grecian philosophers, supposed that the moon had some mysterious and wonderful influence over this function. But this must be regarded as the variest superstition, for we find women menstruating all over the world, at every stage of the moon, and we have yet to learn, that there are any more menstruating women on the increase, or the full moon, than are to be found on the decline of that orb, or when she is entirely invisible.

In some women this function appears with great regularity. They can predict the very day, and sometimes the very hour, when it will occur. But in others, and a large majority, perhaps, such regularity is not observed. It may appear, one, two, or even three days earlier than usual; or be retarded the same length of time, without injury to the system. The flow continues from three to five days, as a general rule, giving the woman an interval from twenty

three to twenty-five days. The quantity of fluid lost, at each menstrual period, in women of health, may be stated as being from three to five ounces. But in all such general calculations, we find many exceptions. Some women will never have their courses more than one or two days at a time, and will lose hardly as many ounces of blood; while others will go seven or eight days, and lose ten or twelve ounces. We have also known women to have their monthly courses twice every month, and lose the usual amount of blood at every such period.

The *change of life*, as it is usually called, when woman ceases to menstruate, and loses her capability of bearing children, takes place about the forty-fifth year of her life. She can then lay aside many troubles and perplexities incident to her child-bearing life, cease from her labors, and seek enjoyment from other sources and in other pursuits. The whole menstruating period is, therefore, about thirty years. But this function sometimes ceases before the forty-fifth year, and it is often protracted beyond that age. As an example of the latter, we may mention that Dr. Wallace, the successor of Professor Meigs, in the Jefferson Medical College of Philadelphia, was an only child, whose mother brought him into this world at the age of fifty-three; and there are some cases on record, of females menstruating the second time, and bearing children at seventy or eighty years of age. "I am cognizant," says one author, "of the case of a lady of Philadelphia, who commenced menstruating at nearly eighty years of age, and conceived."

Formerly, there was no little discussion, and difference of opinion, as to the nature of the menstrual discharge; but, at the present day, physiologists are usually agreed upon this subject. As one of its characteristics, we may refer to its heavy and sickening odor, when it undergoes decomposition. Some females, when menstruating, have a very offensive odor in their breath, which entirely disappears when the flux ceases. The cause of this, seems to be, that some portion of the decomposed menstrual fluid is absorbed into the system, and going into the circulation is exhaled from the lungs with the other noxious gases. It is the characteristic odor of women laboring under puerperal fever, called, in medical works, *gravis odor puerperii*. It is also the characteristic odor of the lochial discharges of lying-in women. Hence, it was once supposed—very erroneously of course—that this fluid contained some poisonous and dangerous principles, and Pliny informs us “that the presence of a menstrual woman turns wine sour, causes trees to shed their fruit, parches up their young shoots, and makes them forever barren, dims the splendor of mirrors, and the polish of ivory, turns the edge of sharpened iron, converts brass into rust, and is the cause of canine rabies.”

But what is the menstrual fluid? Is it a secretion, or is it blood? What is a secretion? It is the separation, or elaboration from the blood, of ingredients, which constitute another fluid, the specific character of which depends upon the structure and action of the follicles or cells engaged in the work. Every secretion has its peculiar properties, and

is quite different from the blood, or any other fluid. The bile, the urine, the semen, the saliva, the mucus, etc., are examples, all of which differ from each other, and from the blood out of which they are, as it were, manufactured. Now the only essential difference between the blood and the menstrual fluid is in this, that the latter contains much less fibrin than the former. In the blood, we find about five parts in one hundred, while in the menstrual fluid we find only five parts in one thousand, or only one-tenth as much; and as the fibrin of the blood forms the coagulum or clot, the menstrual fluid, as observation shows, will not coagulate. But how can we account for the absence of this large proportion of fibrin? as follows: We know that an acid will dissolve fibrin; we also know that the natural secretions of the vagina have an acid reaction. When, therefore, the menstrual fluid, in its dribbling passage through the vagina, becomes mixed with the vaginal secretions, a large portion of the fibrin is dissolved away and destroyed, and there is not a sufficient amount remaining to form a coagulum. The correctness of this explanation is confirmed by the fact, that, if we take this fluid directly from the womb, not allowing it to come in contact with the vagina, it is found to contain the usual amount of fibrin, and to coagulate like blood taken from any other part of the body.

Again, if we take a little of the menstrual fluid and put it under a microscope, we shall have another evidence that it is blood and not a secretion; for we shall discover in it the red corpuscles of the blood, which we know cannot exude through secreting follicles.

The menstrual discharge takes place from the internal surface of the womb. It is supposed by some physiologists, that the pressure of the blood, at the menstrual nismus, is sufficient to rupture the terminal extremities of the capillaries, and allow the fluid to trickle away through their minute pores; but, to use the language of Professor Meigs, "It is most probable, that the discharge takes place from capillaries with open mouths, such arrangement being known to exist in the capillaries of the uterus."

It was formerly supposed that the menstrual flux came from the vagina, as well as the womb, but this doctrine is now exploded. If we examine the womb of a female who dies while menstruating, we shall find the internal surface greatly congested; and if we make slight pressure with the hand, the blood will be seen to ooze out from the little pores in the lining membrane; but no congestion, nor discharge of blood is found below the neck of the womb. We have introduced a speculum into the vagina when the patient was menstruating, through which we have seen the blood trickling from the mouth of the womb, but no congestion of the vagina, nor the slightest discharge of blood from that organ, could be discovered. Such observations settle the question, that the menstrual discharge comes from the internal surface of the womb, and not from the vagina.

But what purpose in the sexual economy does menstruation fulfill? How is it connected with child-bearing? We know that such connection exists, still a woman may conceive before menstruating. Young women sometimes

marry and find themselves in a family way before this function makes its appearance; and nursing women often become pregnant before their menses return. But ovulation, that is, the action of the ovaries in furnishing the ova or female germ-cells, is an indispensable condition of conception; for there must be an ovum to unite with the spermatozoa to produce a new being. If, therefore, the ovum is furnished, the female may conceive, though she may not, from some cause unknown, first menstruate. But menstruation, as a general rule, is necessary to insure the healthy action of the ovaries in the production of the ova, and in this way, if in no other, it is connected with child-bearing.

It is well established, at the present day, that the escape of the menstrual fluid is entirely subservient to the action of the ovaries, and controlled and regulated by them. Though all the other organs of generation remain in their entirety, if the ovaries are so diseased, or deficient that their function is destroyed; or if they have been removed by the knife of the surgeon, menstruation ceases, showing its connection with those organs. Menstruation relieves the congestion of the ovaries. Before the ova ripen, and escape into the fallopian tubes, the ovaries become greatly congested, which is proved by the examination of those organs in a female who dies at that time; but as the discharge continues the congestion entirely subsides. Sometimes the discharge is a little delayed, at every menstrual period, and the congestion of the ovaries not being relieved so early as nature intended, a great deal of pain is pro-

duced, sometimes the most excruciating pain, relieved only when the discharge is well established, and continued the necessary length of time. Now such facts prove that the menstrual discharge depends upon, and subserves the action of the ovaries, and that without such discharge to relieve their congestion, their structures and functions must be destroyed.

Another condition of puberty is the generation of the species, which may well claim a portion of the reader's attention. In man, where we have reason superadded to sexual instinct, it is well to delay the union of the sexes beyond this period, that the sexual organs, and the whole body may become more firmly and fully developed, to insure a healthier and hardier race. But the capability, however feeble, commences at puberty. In the female, as before stated, it consists in ovulation, characterized by the menstrual discharge; in the male, by the evolution of the spermatozoa, not characterized by any such external sign.

It would, no doubt, be entertaining to many of our readers leisurely to peruse a description of the various kinds of sexual organs, and modes of generation, found in plants and the lower animals; but such a description would be entirely foreign to our present purpose, and, in itself, would require a volume of no mean dimensions. We must, therefore, be content with a brief outline of these phenomena, which will, doubtless, open up to many of our readers some things in nature that might otherwise pass unobserved, and also illustrate, to some extent, the generation of the species in the higher animals at the head of which stands man.

All vegetable productions are known to have male and female organs of generation. With a very few exceptions, each plant has both sets of organs, which enable it to generate its species where it is planted; whilst animals have a muscular system to move about, and to search out each other. The flower is the part of the plant which contains the sexual organs—and let it be remembered that every plant flowers or blossoms. Usually, each flower contains both the male and female organs, which give them the name of bisexual plants or flowers; but sometimes we find the male organs in one flower, and the female in another, upon the same branch, which may be called the unisexual.

The flower, which is the most beautiful part of the plant, on account of its form and colors, is usually composed of four principal parts, of which two, the stamen and pistil are essential to generation. These organs are covered and protected by the calyx and corolla. Commencing without, we first have the calyx, which varies in the number of pieces composing it; next the corolla, which varies in form and color, and consists of one or many pieces; the third part is the stamen, which is the male sexual organ. It consists of the filet or thread-like body, and the anther at the summit of the filet. The filet, not being indispensable to fecundation, does not exist in all plants; but the anther always exists, and without it no generation of the plant can take place. It consists of a fine membranous sack containing a very fine powder called the pollen; this powder gives out a peculiar odor when the plant flowers, which is the male sperm or seed. The flowers of some

plants have but one stamen, others two, and so on, up to a large number, situated at the base of the corolla and surrounding its internal surface.

The female sexual organ of plants is the pistil, situated in the centre of the flower, and composed of three parts, the ovary, the style, and the stigma. The ovary is the inferior part of the pistil, and contains very small grains, ovules or eggs, which are the female germ-cells. The stigma, which may be regarded as the external genital fissure, is at the summit of the pistil, and the style, which does not exist in all plants, is a thread-like canal, situated between the ovary and the stigma. There are usually more stamens than pistils, making plants polyandrous, that is, many males for one female.

The union of plants takes place only at the period of floration, or when the flowers are developed. At this period, both the male and female organs acquire a degree of motion, which is visible to the naked eye. They are very sensitive to the touch and exhale an odor, which, in some plants, is most agreeable to the olfactories. And now the sexual organs approach each other; the male organ becomes erected, and it directs its summit or anther towards the stigma, or external fissure of the female organ; the sacks of the anther are ruptured, and the pollen, each grain of which contains a subtle fluid, the fecundating principle, is shed upon the stigma, and imbibed by the ovary—the ovary in plants being analogous to the womb in animals. The corolla is said to contract in some flowers to bring the stamens nearer the pistils, and in aquatic

plants the flowers are seen to elevate themselves above the surface of the water, while copulation is effected, and then to return to their former element to develope and bring forth their fruit.

Says Ryan, "The stigmas of flowers like the sexual organs of most animals, in the season of amours, are bedewed with more or less humidity, acquire more heat, and even become odorous. The stigma in the sensitive plant, tulip, etc., becomes congested and contractile, not only after the application of the fecundating powder, but when submitted to any kind of stimulation. The arum of Italy developed so much heat, as to be appreciable by the thermometer. We see the female organ in the crown imperial, the laurel of St. Anthony, etc., depress itself towards the male organ, which it surpasses in length. We even observe tremblings in the Parnassus de Marais, when it receives the exciting impression of the fecundating pollen. * * * So soon as fecundation is effected, both the male and female sexual organs of flowers, except the ovary, decay and die, as nature has accomplished her object, and left the elements of future generations for development. The ovary swells, and becomes filled with a fluid, which soon acquires consistence, and finally becomes the fruit. This process is termed fructification. The sexual organs can no longer contribute to the perpetual renovation of the species."

Says Meret, "Reproduction is the end of all the cares of nature, for which she has prepared the most perfect apparatus. The act being finished, all enter into repose,

all fade, all vanish. Retard fecundation, impede it by any means, and the flower preserves the freshness of its calyx for a long time."

The *fruit* consists of two principal parts, the pericarpe, and the seed or seeds. The pericarpe is that part of the fruit which contains the seed, and it has one cavity or many according to the number of seeds which it contains. We also have the epicarp, or external covering of the fruit, the sarcocarp or pulpy part of the fruit, and the endocarp or the membrane, which lines the internal cavity of the fruit. By the examination of an apple, this description will be easily understood. In some kinds of fruit there are other parts, known by very hard names, with which we do not think proper to burden the minds of our readers.

Now in some of the very lowest animals, as well as in plants, we find the organs of both sexes united in the same individual, and the ova is fertilized by the spermatic fluid of the same individual. This takes place in many of the zoophytes, and in some of the lowest tribes of mollusca. In others we find both sets of organs in the same individual without the power of self-impregnation; two individuals cohabit, and each is impregnated and impregnates the other, as may be observed with snails and many of the higher mollusca. But in *most* of the lower, and in all of the higher orders of animals, the sexual organs are entirely distinct, one individual possessing the male, and another the female organs of generation, the union of the two being necessary to the generation of their species.

But we must dismiss this subject, not having space to dwell upon it in this work. There are some interesting facts in the generation of the human species, to which we invite the reader's attention.

It is somewhat amusing to contemplate the various theories which have been advocated in various ages of the world, to explain the *modus operandi* of the reproduction of the human species. The material furnished by the sexual organs and its development into a living being have puzzled the wisest philosophers, and filled their minds with wonder and amazement. Before the illustrious Harvey demonstrated the function of the ovaries, in furnishing the ova, and established the doctrine *omnia ex ovo*—all living things from an egg—every theory of generation was confused, doubtful, and erroneous, as modern science plainly shows. Upon Harvey's researches, in the seventeenth century, have been based all modern investigations.

A distinguished author of the last century, by a thorough ransacking of the writings of his predecessors, collects and enumerates no less than two hundred and sixty-two groundless theories of generation. Of course we do not intend to review such a budget of error, but we will invite the attention of our readers to a very few of them, which more or less include all the others.

1. There was a theory that the generation of the species was constantly maintained, as well as originally established, by an emanation of images and spectres from the Divine Being, which were arranged into perfect order. According to this theory all living beings, both vegetable and animal,

are renewed and maintained by a perpetual process of miracles. This was the favorite doctrine of the great Plato; and the agents for the arrangement and development of these divine emanations consisting, as he stated, of three persons, the man, the woman, and the child, he readily formed his favorite hobby of a Trinity in unity. But it should be remembered that there are but two agents employed, the man and the woman, the child being the result or the product of these agencies.

2. It has been maintained, that in the first individual of every living thing, there was created, and really existed, all the germs of the succeeding progeny. Mother Eve, according to this doctrine, possessed in her own body all the material germs of every human being who succeeds her, and the same would be true of every living thing, vegetable and animal. This was called the system of evolution—the unfolding of the germs of the original individual of every living species. But the absurdity of this doctrine will appear evident when we consider that these germs, however minute, are material substances and must occupy some space, and that we know of no limit to the multiplication of any species, so long as the outward conditions remain unchanged. A single grain of corn may multiply itself till it covers the whole earth, and to suppose that the original grain possessed all the germs of every succeeding grain, is a mere absurdity. The true doctrine is, that there is developed in every individual the germs for its offspring. Our first parents did not possess the germs out of which the reader evolved, but they were developed in

the parents of the reader, and this capability of development is the intrinsic character of every living thing.

3. It has been maintained by other philosophers, that during sexual congress, followed by fecundation, a great number of organic molecules, or minute particles, were separated from every part of the body to meet in the womb; that those particles separated from the nose, eyes, heart, lungs, etc., of the male, must meet those coming from the same organs of the female, because, as it was supposed, these particles, however minute, had the form of the organs from which they were derived. Even the great Hippocrates supposed that the seminal fluid was derived from every part of the body, but especially from the brain and spinal marrow, and that it passed along the spine to the loins and sexual organs. But Hippocrates knew little or nothing about human anatomy, and his ideas upon such subjects must necessarily have been visionary and unsettled. It is now known that there is no possible passage for seminal fluid along the spine to the genital organs, and that it is anatomically impossible for organic molecules to pass from all parts of the body to the sexual organs during the coupling of the sexes. The materials for a new being, it is now known, are furnished from the blood, which passes through the minute structure of glands designed for that purpose, viz. : the ovaries in the female, and the testes in the male.

4. Before Harvey's discoveries, a large majority of physicians were of the opinion that the female, as well as the male, had an emission of semen in sexual congress; and

that these two materials mixed in the womb, and formed a new being. But modern science has refuted this doctrine. Females, it is true, sometimes have an orgasm or acme of sexual pleasure, if such language is proper, similar to that of the male when an emission takes place. We say *similar*, but that is only inference, as the sensation both in the male and female is indescribable. But the idea we wish to convey is this, that it was once quite generally supposed, that at this indescribable moment, the female, as well as the male would have an emission of spermatic fluid, that would contribute to the formation of the embryo. This, to our mind, was the most reasonable theory of generation, previous to the discovery of ovulation, but since that time, it has been entirely exploded, and no man of any pretensions to medical science holds such a notion at the present day. But this opinion has always appeared so rational, that it has been rooted and grounded in the minds of the people, and handed down from generation to generation, and is, perhaps, very generally entertained at the present time by unprofessional people. But it is now known that there is no such thing as an emission of spermatic fluid in the female during copulation. There is usually, it is true, an increased secretion of mucus from the vagina and neck of the womb, during the intercourse of the sexes, and at the time when the sexual pleasure runs the highest, this secretion may sometimes become quite profuse. It is this which is usually supposed to perform an important part in the generation of the species, but it really has nothing to do with it. Let it be remembered, also, that many females

who bear children as readily as others, though they experience some degree of pleasure in the embraces of their husbands, never have an orgasm, and that others, never experience any pleasure whatever, though no disproportion exists between themselves and husbands, still they conceive and bear children. A few such cases have been the subjects of our inquiry, and they have been too well established to admit of doubt.

5. Another theory was that the female furnished all the material necessary for the generation of the species, and that the office of the male was merely to awaken this dormant element into life and motion, and that the subtle influence, which produced such a result, came from the brain of the male during coition. This was the favorite doctrine of Pythagoras, and the doctrine of many other philosophers somewhat modified. But there was another doctrine directly the opposite of this, viz. : that the male alone furnished all the material that was essential for the new being, and that the female organs furnished a fit receptacle for such material, and the nourishment for its development and growth. This was the theory of the celebrated Galen, and after the discovery of spermatozoa, those who had maintained it now held the theory that the spermatozoa were miniature representations of men and women, and called them *homunculi*, and that the womb of the female was the place where these homunculi were furnished with the materials for their nourishment and growth, till they became independent beings ; that if a male homunculum took up its residence there, a man would be pro-

duced; if a female homunculum, a woman would be the result.

The language in which these various theories have been expressed is scattered through medical works in such a loose and vague style, that we have preferred not to make any quotations in support of our assertions, but to sum them up, as above, in our own language. We have, perhaps, given the substance of every theory worth naming.

When describing the spermatozoa, and the offices of the ova, we stated, that the generation of the species was effected by a union of these two elements; that the little microscopic spermatozoa, found in the male spermatic fluid, full of life and motion, and the minute ovum, not larger than the smallest pin's point, furnished by the female ovaries coming in contact and intimately mingling with each other, was the commencement of a new being, and being lodged in the womb, and receiving its proper nourishment from the mother, was developed into a new and independent being. This being the simple statement of the philosophy of generation, as demonstrated by modern science, let us now inquire where, and by what force or law, this contact takes place. Some authors suppose it may take place in the womb, or the fallopian tubes; others think it may occur in either of these cavities, or upon the ovaries; and still others, among whom we may name Dunglison, think it always occurs upon the ovaries. Our own opinion is, that it may occur in the womb or the fallopian tubes, but seldom if ever upon the ovaries; and we would be glad to discuss the question at some length, and give our reasons

for such a view of the subject, but neither our space, nor the character of this work admits of it.

But by what force or law does the spermatozoa pass upwards to reach the ovum? It is generally supposed by unprofessional persons that they are thrown into the womb by the ejaculatory impulse of the male at the time of sexual intercourse; but this would be mechanically impossible on account of the anatomical arrangement of the parts. The walls of the canal extending through the neck of the womb are nearly, and sometimes quite, in contact; and the womb itself is directed forwards, and forms a right-angle with the vagina. The semen, therefore, is not ejected in the direction of the cavity of the womb, and can only be thrown into the vaginal pouch surrounding the neck of the womb, or upon the mouth of the womb, to be acted upon by other forces. And the action of the vagina, the womb, the fallopian tubes, and the motions of the spermatozoa, seem to be the forces employed for the accomplishment of this wonderful work. Blundell describes certain peculiar motions of the vagina, which favor the passage of the semen into the lower part of the womb. He made observations upon the rabbit from which he deduced the following:—"This canal, during the heat, is never at rest. It shortens, it lengthens, it changes continually in its circular dimensions, and when irritated, especially, will sometimes contract to one third of its quiescent diameter. And in addition to this action, it has another, which consists in the falling down, as it were, of that part of the vagina which lies in the vicinity

of the womb; so that it every now and then lays itself as flatly over its orifice, as if we should apply the hand over the mouth in an endeavor to stop it. How well adapted the whole of this curious movement is for the introduction of the semen at the opening, it is needless to explain."

Again: The walls of the canal, of the neck, and of the cavity of the womb, lying very nearly in contact, and the caliber of the fallopian tubes being very small, especially where they open into the womb, may exert a sort of sucking force upon the semen. Take two pieces glass, and having placed a few drops of water upon them, hold their wet surfaces very nearly in contact, and the water will be seen to spread, and, perhaps, cover the entire surfaces; or take a tube no larger than the uterine end of the fallopian tubes, and put one of its ends in water, and the fluid will be seen to rise within the tube above its level upon the outside, showing the attraction exerted upon it by the internal surfaces of the tube being brought nearly in contact.

But the principal force employed in this work seems to reside in the spermatozoa themselves. These minute bodies, as we have explained in its proper place, are endowed with the power of motion, and by a vital determination, so to speak, these motions are directed towards the ovum and continue till the spermatozoa reach their destination or die upon the passage. In addition to these forces there may reside in the womb fallopian tubes, and ovaries, some specific vital force, not understood, nor susceptible of explanation upon any mechanical or chemical principles, referable alone to an ultimate vital principle.

The passage of the ovum from the ovary to the womb may be explained by the action of the cilia in the fallopian tubes, and the peristaltic action of those tubes; but the action itself, as well as that peculiar and remarkable action of the fimbriated extremities of the fallopian tubes, in grasping the ovaries to receive the ova and pass them into the tubes, is entirely beyond our conception, and must be referred to an ultimate vital principle. Indeed, all man can do, is to investigate the conditions or laws, which control and change the elements of matter. This is called science. But when matter is organized into living forms, there is a vital principle back of all our science, referable alone to the Divine Mind, and this, though seen in all living forms, is peculiarly exhibited in the generation of the species, every kind retaining its original form through multitudes of generations, and untold changes in outward conditions.

CHAPTER IV.

MATRIMONY OR MARRIAGE.

Development of the conjugal feelings—The most proper age for marriages—Interesting examples—Matrimonial scale—Courtship and marriage customs in barbarous and semi-civilized countries—Ancient Britain and Scotland, Italy, Turkey, Africa, etc.—Amusing cases—The hymen as an evidence of virginity—erroneous opinions—The Mosaic law—Unjust and oppressive laws and customs—The consummation of marriage—Physical disproportions condemned—Great men of illegitimate birth—Mental impressions transmitted to the offspring—Interesting cases—Napoleon, Queen Mary, etc., etc.—The charm of contrasts—Feminine men and masculine women—Qualifications of young people for the marriage relation—Domestic acquirements—The lady loafer—The blessedness of home—The advice of an oriental Brahmin—Marriage as a remedy—Unjust laws relating to marriages and divorces—When divorces are justifiable—Physical impediments—Caution, treatment, etc.

“BEHOLD,” says the eloquent Virey, “what pomp, what joys, what glory, and what magnificence are prepared by nature, for the marriages of plants and animals! How the lion prides himself on his strength! the antelope on its figure! the peacock and swan on their plumage! the fish on its silvery coat, and on the splendor of the gold and brilliant appearance of its body! How the butterfly

expands its diamond wings! How the flower displays its charms to the rays of Aurora, enjoys in silence and drinks the pearly drops of the dew! All is the radiance of beauty in nature, the earth, covered with verdure, resounds with accents of joy and sighs of pleasure; all exhale love, all search for it, and enjoy it—in a word, it is a common festival of beings. But, in a short time, the flower fades away, and languishes on its stem; the butterfly declines and dies; the lion, as if fatigued by long-contested fights, searches for peace and retreat; and man himself, overcome with languor, retires in silence, seeing the approach of death, which presses its iron hand on all that breathes.”

In the first part of the preceding chapter, we have described certain physical changes, in both sexes, as necessary constituents of puberty, such as the rapid growth of the genital organs, the development of the general contour and firmness of the body, the voice, etc.; and menstruation and ovulation in the female, and the evolution of spermatozoa in the male. In addition to these changes, there are certain moral elements developed, which are indispensable in the matrimonial and family relations. The girl of twelve or thirteen years, who is equally familiar and playful with men as with women, in a year or two is entirely changed in her manners and habits. A gentleman can no longer beckon her to his knees, and caress her like a child, for she now possesses an inward passion for the opposite sex, which gives rise to a sentiment of reserve, or “virgin shame.” Until this time she was influenced by

self-love, parental affection, or the friendship of young persons of her own sex; but now these are insufficient; she really feels—though the sentiment is vague and confused—that her well-being exists in another, that she cannot enjoy existence except in the intimate union of body, mind, and heart with one of the opposite sex, and this passion, as deep and abiding as nature itself, is all expressed in the monosyllable, LOVE!

The moral changes in boys are, perhaps, nearly or quite as great. Those of timid and delicate constitutions, whose associations had been chiefly with females, experience an unconquerable bashfulness while in their presence; and the powerful emotions which produce such bashfulness, sometimes lead the unhappy youth to a morose deportment towards the gentler sex, and more or less to avoid their society, and this is generally ascribed to the poor fellow having imbibed a dislike for females; but how contrary is the real state of things. In boys of more robust constitutions, however, the indications are quite different. Instead of hiding their feelings, or affecting dislike for those towards whom their instincts yearn, they manifest a great desire for their society, and take pleasure in a frank and gallant homage towards them.

And now commences those innocent amours so delightful and pleasing to the parties themselves, and also to the unselfish observer. They meet; their tastes and sentiments are similar; the strictest chastity presides at their first interviews; they know no other motive for their actions than the pure inspiration of nature and the heart; a

word, a glance, a whisper, and the pressure of a trembling hand, now produces the most thrilling enjoyment. They approach each other with respectful hesitation, and endeavor to conceal the real nature of the sentiments which influence and agitate their minds; but at the same time they think unutterable thoughts; and as their love increases their interviews become more frequent and more intimate, and a reciprocal confidence is established between them; a secret impulse controls their whole being, and, at length the time comes when they resolve to be one body, mind, and heart, and share with each other the joys and sorrows of life, by swearing eternal fidelity before the altar and in the presence of Heaven.

“Oh happy they, the happiest of their kind!
Whom gentle stars unite, and in one fate
Their hearts, their fortunes, and their beings blend.
'Tis not alone the tie of human laws
That binds their peace—but harmony itself,
Attuning all their passions into love;
Thought meeting thought, and will pervading will,
With boundless confidence—for nought but love
Can answer love and render bliss secure.”

Among other subjects, the proper age at which marriage should be contracted, has created no little controversy, especially in other countries and in former times; but it is now generally agreed that the preservation of chastity by both sexes, at least for a few years after puberty commences, is physically and morally productive of the best

results; for the premature use of organs, which should quietly ripen and mature, is prejudicial to the health and vigor of both parties; and the offspring, which may reach maturity, are sickly shrubs, and make small, deformed men and women. To remedy these evils, legislative acts have been imposed in various countries, and at various epochs of history, against marriages being contracted before the ages of twenty-three, twenty-five, twenty-seven, etc., etc. But all such laws must be partial, unjust, and ineffectual; for in warm climates, it would be tyrannical and pernicious, to compel young people to wait till an age, which might be timely and advisable in cold climates; and even among persons born and living in the same country, and the same latitude, the variations of physical and mental development are so great, that it would be impossible to establish any useful custom or law upon this subject. That which might be necessary to the health, the virtue, and even the life of one, might be positively injurious to another, of the same age, but of a different habit of constitution; the one, at the age of seventeen, might acquire a maturity of development, which would require three or four years to produce in the other.

Premature marriages have been advocated on the ground of morals, as being a good preventive of libertinism; but we question the soundness of such reasoning. Young persons who cannot be restrained from licentious conduct, out of the marriage relation, would be quite certain, were they to marry prematurely, to contract those habits, which work the degradation and ruin of so many of our youth. The

mantle of matrimony thrown over licentiousness is, at best, a sort of smothered abomination, that constantly bursts forth to disturb the peace and harmony of society. Louis XI., of France, before he arrived at the age of fourteen, cohabited with his queen, who was hardly twelve, and it is the opinion of all physiologists, that his effeminate and ferocious character was the consequence of the early exhaustion of his sexual powers. Matrimony is often a cloak, but a very uncertain remedy for licentiousness. The study of man—for the true study of man is man—and the careful inculcation of the precepts of morality and decorum, are the only safeguards to society.

Perhaps there is no civilized country, in which so many early marriages are contracted, as we find among the poorer classes of Ireland. The chastity of the women, and the rarity of prostitution, seduction, and adultery, and the denunciation of the clergy against such practices, are supposed to be the chief causes of these premature marriages. But there must be other causes in addition to these, which have a powerful influence upon the poorer classes; for among the better classes of Ireland, and in the rural districts of our own America, where young men seldom know women till their marriage, and, therefore, are not prevented from marrying by their associations with unchaste females, we find very few premature matrimonial alliances.

The Irish are proverbial for the attention and support they afford their parents in their old age. This is expected, and it is, in a measure, enjoined by the church, and hence

parents will speak of their children as their *means* of support, and the young stock think they had better marry early that their children may be grown up to support them when they are old and beyond work, which unfortunately comes early in that land of destitution.

We find another reason for early marriages, expressed in the old adage, "That misery loves company." Make a person miserable, and he most intensely craves the companionship of one prepared to share his sorrows, even if there are no joys to be dispensed; and in this he is but fulfilling a law of his nature as strong and abiding as life itself. And who is so well prepared to enter such partnership, with misery and destitution for the capital, as the wife who never knew anything better. They know they can be no worse off, and when their potatoe crop is consumed, and they can procure no employment, their wives and children can go out begging, which the men could not do so well, on account of the "small luck" that would attend them.

In the county of Cork, the Rev. Mr. Barry observes, that early marriages are very common. "I have," says he, "married boys of sixteen and girls of fourteen, and many from sixteen to eighteen. When a servant-boy is with a farmer, he says to himself, I have no one to wash, make, or mend, or do anything else for me, and I may as well have a wife; we will be able to make out life in some way, and I do no more now. John Baskum, a servant-boy of sixteen, married a girl of seventeen. He had hardly as much as would cover his skin; they had scarcely bed-

clothes to cover them ; he is badly off now, but can be no worse. Daly, aged seventeen, married a girl of fifteen ; they were both servants, and not a sixpence above beggars ; but they could be no worse off. James Helan, sixteen, married a girl seventeen, though he was hardly able to cover himself. Fitzgerald, a poor servant-boy of seventeen, married a girl of the same age ; they are as poor now and cannot be worse off. I endeavored to dissuade some of these persons from marrying, but they would not listen to me, saying, we cannot be worse off than we are. A girl in the poorest family is always ready to marry ; it takes her out of other people's mouths, that is, removes scandal. She has also another motive—she wishes to have children to support her in her old age. A woman had an illegitimate child with a view, as she stated herself, of having some one to look after her when she should be too old to take care of herself."

In the county of Sligo, the Rev. Mr. Gibson observes, "The poor consider that when they have brought up a family, they have made a provision for their old age. In many places poor single women, widows without children, and even crippled beggars, were found to seek and bring up orphan and deserted children, without any remuneration, and merely with the view of having some one to assist them in their old age. Want of employment is also thought to assist in bringing about early marriages, as young men, who have no work, lounge about and become acquainted with females at fairs, markets, *and funerals.*" In Tipperary a laborer said, "If we marry and God give

us children, they will support us when we are beyond work ; but if we did not marry soon we should be broken down before our children would be grown enough to take care of us ; and we can be no worse off than we are now." The girls are as anxious as the boys ; the lad sees that he can get no good by waiting, so he marries without any fear of being worse off than before ; for when he has no work, if he is ashamed to beg himself, the wife and children will beg and support him ; or if he wishes to take a fling to some other part of Ireland, or to the English harvest, they will support themselves by begging till he comes back."

While upon this subject, we will remark, to the amusement of some, perhaps, that many philosophers are of the opinion that considerable disparity in the ages of persons contracting matrimony is productive of devotion, affection, and happiness, and consequently more in accordance with nature's unerring dictates ; that young ladies are more apt to become enamored with men, than with boys of their own age ; and sometimes with men old enough to be stigmatized by an ingenuous world as *old bachelors* ; and that young gents are more likely to be smitten with old maids, and widows, than with those younger than themselves, or about their own age.

Now, if this opinion be correct, which we shall not stop to controvert, it would be an easy matter to construct a matrimonial scale, that, in one respect, at least, would be quite in accordance with nature:—Let a man forty-five, more or less, take unto himself a young lady of fifteen or sixteen years, and when she attains to the age of thirty-

five, let her shove one side the jolly companion of her youth, who by this time must be a mere incumbrance to the matrimonial sisterhood, and let her unite her future destiny with a young gent of seventeen or eighteen summers. Now, when the latter attains to the age of forty-five, the genial, affectionate, and sprightly old maid, or widow, who became the sunshine and joy of his youth, must stand one side, a superannuated old woman, and an idle spectator to the union of her youthful companion with a lass of fifteen, who, in due time, would have her turn; and so on ad infinitum. So far as the old adage applies here, viz. : "Variety is the spice of life," this marriage programme would be more in keeping with nature's dictates, than the one usually followed.

Some remarks upon courtship and marriage customs, in various barbarous and semi-civilized countries, may not be without interest to our readers. Our statements are derived from a very authentic history of Marriage Customs of all Nations, published in 1830, and they must be regarded as perfectly reliable. It should be remembered, however, that since that time the advancement of civilization and Christianity in various parts of the world, have somewhat modified, or entirely changed the more unreasonable and amusing of these customs.

"Among the ancient Britons, in very remote times, it was customary to have the women of ten or twelve families who dwelt under the same roof, in common, and it is said that Julia, wife of the Emperor Severus, reproaching a Briton with this custom, received for an answer, that the

Romans ought not to reproach the British ladies on this account, as what the latter did publicly with men of merit, the former were known to practice in private with the worst, and sometimes with their slaves.

“There was formerly a custom in Scotland that savors so much of brutality, tyranny and disgust, that it seems almost incomprehensible, in the present polished state of society, that it should have ever obtained the sanction of a law; but we have it from the undoubted authority of history, that Evenus III., sixteenth king of Scotland, made a law that the king should have the first night after marriage with all noblemen’s daughters, and that noblemen and heritors of lands have the same freedom with the daughters of their tenants and vassals, and that both wives and daughters of every subject should be common to the king and his nobles. The law giving the first night after marriage to the landlord, was in being till the time of Malcolm III., whose queen, St. Margaret, procured the abolition of so wicked a law.

“There is a custom in Italy, known as the *Cecisbeat*, which is carried to a very extravagant extent in Genoa. With the day of the nuptials ceases every *public* intercourse between the husband and the wife. They must not be seen together, neither walking, nor at the play-house, nor in company; in short, nowhere but at home. In other cities many husbands put themselves above that foolish usage, out of love to their wives, and have nothing else to fear than to be looked upon as unfashionable husbands; but here the most united couple must not think of such a

thing. To be forsaken by all friends, derided by enemies and insulted by the mob, are unavoidable consequences, if they are ever seen together in public. In Spain, the *cortejos*, as it is called, amounts to nearly the same thing, and no one has any legal right to complain.

“The number of women in the Turkish harem depends on the taste of the reigning Sultan. Selim had two thousand; Achmet had but three hundred. The Grand Seignior is not permitted to take a virgin to his bed except during solemn festivals, and on receiving good news; upon which occasion the ceremony is described as follows:—

“As soon as the Grand Seignior has chosen the girl that he has destined to be his companion for the night, all the others follow her to the bath, washing and perfuming her; she is then dressed superbly, and conducted to the sultan's chamber, with singing, dancing, and rejoicing, who is generally on such an occasion already in bed. Scarcely has the newly elected favorite reached the chamber of her lord, introduced by the grand eunuch, who is upon guard, than she kneels down, and when the sultan calls, she creeps into bed to him at the foot of the bed, unless the sultan orders her, by special grace, to approach by the side. After a certain time, upon a signal being given, the governess of the girls with all her suite, enters the apartment, and conducts her back, with the same ceremony as before, to the women's department. Should she prove pregnant and be delivered of a boy she is called *Asaki-Sultanness*, which means *Sultanness-mother*. For the first son, she has the honor of being crowned, and has the liberty of forming

a court. She has also a particular guard of eunuchs for her particular service. * * * * *

“In nearly all parts of Abyssinia, there is no form of marriage except the agreement of the parties to live together as long as they like each other. They cohabit together when they please, and annul or renew the contract in the same manner. Thus a woman or man of the first quality may be in company with a dozen who have been their bridegroom or bride, though perhaps none of them may be so at present. Upon separation they divide the children. The eldest son falls to the mother’s first choice, and the eldest daughter to the father; if there is but one daughter, and all the rest sons, she is assigned to the father; if but one son, and all the rest are daughters, he is assigned to the mother; should the number be unequal, after the first election, the rest are divided by lot. There is no distinction from the prince to the beggar, of illegitimate or legitimate children.

“Hottentot marriages are made by the parents or nearest relations; and if the female disapprove of the match, it is said that she is nevertheless compelled to pass the night with the man whom her friends have chosen. If the marriage be consummated she is constrained to become his wife, but on the contrary if she preserve herself uncontaminated, she is ever after free from him.

“The portion they give a son on his marriage is usually two cows and two sheep; to a daughter, one of each, which are to be returned to the father if the bride die without having any children; but if she ever bore any children to

her husband even though they are defunct, the portion becomes his. A man who has been divorced may marry again, but a woman may not, while her former husband is living. Adultery is punished with death. * *

“In some parts of Africa, marriages take place between white men and blacks or mulattoes, but they are not indissoluble; they last during the pleasure of the parties, nor does a separation reflect any discredit. A black woman in general thinks herself honored in partaking of the touch of a white man, and is true, submissive and grateful, to the utmost; in short, she uses every art to merit his kindness and love. If the husband embark to cross the sea, the disconsolate wife accompanies him to the shore, and sometimes follows him by swimming a considerable way after the vessel, till her strength is exhausted; when obliged to return, she gathers up the sand on which are the last impressions of his footsteps, which she ties up in a piece of cotton and lays under her pillow. * *

The Chevalier Marchais, who was present at an execution for adultery, gives the following account of it:—

“A grandee complained to the king that a private person had debauched his wife; his majesty, upon hearing the witnesses, sentenced the adulterer to be beaten to death wherever he could be found, and the body left there until it was devoured or rotten. The officers belonging to the governor of *Sabi* found the culprit just entering his own door: they soon despatched him with their clubs, and left the body as the king had ordered. The neighbors went to acquaint the captain of the *seraglio* that the body would

infect all that quarter of the town where it lay before it was consumed, and entreated he would obtain the king's orders for its removal. The officer represented their complaint to the king, who replied, 'If I did not punish adultery with severity, no person in my country could be safe. The body shall lay there till it be devoured or rotten. The people shall see it, and learn at the expense of this wretch how they invade their neighbor's bed. All I grant is, that they may in the day-time throw a mat over the body, leaving the face uncovered, that all persons may see the countenance of him who has defiled his neighbor's wife, and detest him.' Not content with this, the king gave all the effects of the offender to the injured man."—*Moore's Marriage Customs.*

But we must pass on to consider other matters of importance connected with matrimony. In every part of the world, both savage and civilized, female virtue has always been held in the highest esteem. And the usual sign of virginity, the existence of which is always uncertain, is still required by many classes as the only satisfactory evidence of chastity. We allude to the hymen, a description of which will be found in our chapter on the Female Genital Organs. Many unsuspecting and innocent females have been disgraced, and, according to the Mosaic law, stoned to death, for not possessing this proof of virginity at the time of marriage; and the Turks, Persians, Arabians, Egyptians, etc., as well as the Jews, insist upon it at the present day. According to the Mosaic law, when a man married a wife, and made a complaint that she was not a

virgin, if her parents produced her napkin before the elders with blood upon it, the false accuser was fined for bringing slander upon the damsel, and he was not allowed to put her away; but if that token of her virginity could not be produced, she was brought out of her father's house and stoned to death by the men of the city. This law is contained in Deut. xxii. 13-21. We will quote the language:—

“If any man take a wife, and go in unto her, and hate her,

“And give occasion of speech against her, and bring up an evil name upon her, and say, I took this woman, and when I came to her I found her not a maid;

“Then shall the father of the damsel, and her mother, take and bring forth the tokens of the damsel's virginity unto the elders of the city in the gate:

“And the damsel's father shall say unto the elders, I gave my daughter unto this man to wife, and he hateth her,

“And lo, he hath given occasion of speech against her, saying, I found not thy daughter a maid; and yet these are the tokens of my daughter's virginity. And they shall spread the cloth before the elders of the city.

“And the elders of that city shall take that man and chastise him.

“And they shall amerce him in a hundred shekels of silver, and give them unto the father of the damsel, because he hath brought up an evil name upon a virgin of Israel; and she shall be his wife, he may not put her away all her days.

“But if this thing be true, and the tokens be not found for the damsel;

“Then they shall bring out the damsel to the door of her father’s house, *and the men of her city shall stone her with stones till she die*, because she hath wrought folly in Israel, to play the whore in her father’s house; so shalt thou put evil away from among you.”

How many virtuous females have been stoned to death, or suffered disgrace in various ways, for not possessing the hymen at the time of marriage, Heaven only knows! It is, therefore, the duty of medical men to disabuse the public mind upon this subject. Justice and humanity to females require this. Facts in science are infallible, and to these all mere speculative notions must give way. Now what are some of the facts upon this subject?

1. The hymen does not always exist. All medical men who have investigated this subject coincide with this opinion. Wilson, whose text-book upon special anatomy is one of the most popular extant, says, “The hymen must not be considered a necessary accompaniment of virginity, *for its existence is very uncertain.*”

2. It is now agreed that the disease known as leucorrhœa, or the whites, to which young women of feeble constitutions are liable, will sometimes destroy the hymen. When this membrane is very thin and delicate, and the discharge from the vagina is very acrid, it will corrode, or wear it away, leaving the maid without the hymeneal evidence of virginity, which she before possessed.

3. It may be ruptured by accidents of various kinds,

such as falling upon sharp, projecting objects; by the fancy dance, when the limbs are extremely and unnaturally distended, and the body contorted; by masturbation, and even by curiosity.

It must, therefore, be admitted that the absence of the hymen, and consequently the want of any effusion of blood at the consummation of the marriage-rite, is no proof that the woman is not a virgin. The existence of a well-formed hymen is, of course, proof of virginity, but its absence, we repeat, is no proof of a want of virginity.

Moreover, the hymen is sometimes so slightly formed, that it is a mere ring or border of membrane, upon the lateral and inferior portion of the orifice of the vagina, allowing sexual connection to take place without its rupture. Such hymens have been found entire at the time of parturition; and, of course, could be no evidence of virginity at the time of marriage, as connection could take place before, as well as after marriage, without their rupture.

But whatever value may be placed upon the hymen, it is a poor criterion of character, for a woman may possess one as strong and tough as a sow's ear, and be the very embodiment of Satan, so far as her disposition and moral principles are concerned. There are other ways open to both sexes by which parties contracting marriage must judge of character. A suitable acquaintance, and the exercise of common judgment and common sense, as to the reputation, deportment, and moral sentiments of each other are the only safeguards; and these are usually suffi-

cient, if the parties will keep their eyes open and not allow themselves to become voluntarily blinded. Marriages are frequently like lotteries, but they ought not to be so. The parties are blinded to the most serious defects of character till after marriage, when a mole-hill very soon becomes a mountain, and, instead of the placebo, kind words, and a forgiving disposition, we find jealousies and jargons, cats and dogs, fire and tongs, et cetera.

The consummation of marriage should be effected with gentleness. If effected with the impetuosity and coarseness of brutes, and the female be young and of slender proportions, more or less laceration and pain, followed by inflammation and swelling of the parts, may be produced, even if there should be no hymen. Some formidable cases of the kind have come under our treatment, and we have always looked upon them as no better than rapes committed under the cloak of matrimony. Be gentle, then, and wait awhile till the proper familiarity is induced, and the promptings of nature make the act desirable.

There ought not, in our opinion, to be any great physical disproportion in parties contracting matrimony. A delicate, slightly formed female, with a small pelvis, ought to hesitate long before marrying a large, stoutly built man; for they would not be adapted to each other, and the offspring would be so large as to produce very great suffering in parturition, and endanger the life, both of the mother and the child. This is the fate of many girls of small stature. They purchase the pleasures of matrimony at a very dear rate. Besides, there is something very ludi-

crous, to our mind, in seeing a man of monstrous dimensions with a wife of huge littleness. A man standing six feet in his boots, and weighing two hundred avoirdupois, with a woman of slender proportions, weighing eighty or ninety pounds, may be an entertaining farce, but it often ends in tragedy.

It would be well for the world if the same good sense could be exercised in the improvement of the genus homo that is constantly exhibited in raising cattle for the shambles; but in the former case man's sexual passions are concerned, which, in matrimonial contracts, seem to outweigh every other consideration. Man is imperfect because he is man; were he perfect he would be an angel of light, or, at least, occupy a sphere not intended for the *human* race. Metaphysicians may speculate and have their fine-spun theories, some of them quite plausible, and others very coarsely spun and quite ridiculous; but here is man, whose nature is always the same and unchangeable; he possesses the same faculties and instincts now that were a part of his being when he came from the hand of his Creator. This is beautifully illustrated in the Mosaic account of the origin and conduct of the first pair in the garden of Eden. We can improve all the faculties of human nature, but we cannot entirely change or subvert them.

By importing horses and cattle from other countries and crossing the breed, we can greatly improve stock; and the same law applies to the human species. This law is, perhaps, better illustrated in Persia than in any other country.

It is said that in that country the custom has existed for a long time among the nobles of purchasing beautiful Circassian female captives, and forming matrimonial alliances with them; and we have seen it stated by travelers, that the Persian nobles are more gifted in natural qualities, both physical and mental, than any other class of that people. The violation of this law is very strikingly illustrated in England, France, Spain, and Portugal. In those countries, the nobility generally marry within very narrow limits, and the degeneracy, and even idiocy, of many of them is the result.

Sexual excesses, producing debility of the generative organs; and a feeble effort at sexual commerce, "tween sleep and wake," is, no doubt, another cause of feeble offspring. Hence it has long been observed that men of genius were more likely to be the first-born, or to be bastards, because the first love is generally the most ardent. Such was a great number of the heroes of antiquity, who, being bastards, were said to have descended from the gods, and to have been born of virgins. Hercules, Esculapius, and Romulus were among the number. The greatest legislators that Asia ever had, came into the world after the same fashion, and hence Zoroaster, Confucius, Mahomet, Zaccari, etc., were said to be born of virgins. Such, also was Homer, Gallileo, Erasmus, etc. The most distinguished poets have entertained the same opinion and Shakspeare very beautifully expresses the same sentiment when he makes Edmund say—

“ Why brand they us
With base? with baseness? bastardy? base? base?
Who, in the lusty stealth of nature,
Take more composition and fierce quality
Than doth, within a dull, stale, tired bed,
Go to the creating a whole tribe of fops,
Got ’tween sleep and wake.”

Dr. Ryan says, “The canon law of Muscovy forbids conjugal intercourse on Mondays, Wednesdays, and Fridays.” The object of such an edict is evident; it is to prevent, as far as possible, the bad consequences of sexual excesses and abuses. But should all the churches in this Yankee land issue such bulls, we fear it would be difficult to enforce submission to their mandates, however wise and beneficent, as the cry would be raised from one end of the land to the other, that they were opposed to the constitution and the union.

The state of mind, both of the father and mother, at the time of sexual intercourse, resulting in pregnancy, and the state of mind of the *mother* during pregnancy, may have some influence upon the offspring. There can be little doubt that this influence is sometimes very marked. Of this there have been many noted examples, a very few of which we will very briefly notice:—

Charles Buonaparte, the father of Napoleon Buonaparte, was in the midst of civil discords, fights, and skirmishes when he married Letitia Ramolini, a beautiful young woman possessed of great firmness of character. During the years of civil war she partook of the dangers of her

husband, and accompanied him on horseback on some military expeditions, and hasty flights, shortly before she was delivered of the future emperor. Mary, Queen of Scotland, shortly before the birth of her son, which was afterwards James the First of England, was greatly alarmed by the murder of David Rizzio, which was perpetrated in her presence with many circumstances of violence and cruelty; and it is stated in history that sudden emotions of fear were a prominent characteristic of this monarch, and that he always started involuntarily at the sight of a drawn sword. Queen Mary was not deficient in courage, and the Stuarts, both before and after James the First, were distinguished for their chivalry, so that this quality of his mind was an exception to the family trait. Napoleon and James form striking contrasts, and the explanation is not difficult. Napoleon's mother, it appears, was not alarmed at her condition, but her mind rose to the circumstances in which she was placed and she was fully prepared to meet their dangers; while the circumstances in which Queen Mary was placed were calculated to inspire her with fear alone.

A celebrated French writer mentions the circumstance, that many children, whose existence dated from the period when the horrors of the French revolution were at their height, turned out to be irritable, nervous people, extremely susceptible of impressions, and liable, by any extraordinary excitement to be thrown into insanity.

An English surgeon mentions the following case:—"A man had a fall from a horse by which a portion of his skull

was fractured, and pressed inwards upon the brain. Previous to this injury he had a son that was of sound mind, but after the injury, and while the bone remained pressed in upon the brain, he became the father of two children, both of whom were idiots. After this he had the operation performed called trepanning, and the bone removed from the brain, and had other children that turned out to be of sound mind." A lady of position wrote as follows:—"From the age of two, I foresaw that my eldest son's restlessness would ruin him; and it has been even so. Yet he was kind, brave and affectionate. I read the *Iliad* for six months before he saw the light, and have often wondered if that could have any influence on him. He was actually an Achilles." Similar cases might be multiplied to almost any extent, but the above must suffice. What admonition to tipplers and drunkards! Even Plutarch laid it down as an axiom, "That no man keep company with his wife for issue-sake, but when he is sober, as not having before drunk any wine, or, at least, such a quantity as to distemper him; for they usually prove wine-bibbers and drunkards, whose parents beget them when they were drunk; wherefore Diogenes said to a stripling, somewhat crack-brained and half-witted, "Surely, young man, thy father begot thee when he was drunk."

One of the greatest charms in matrimonial alliances is contrasts. A masculine woman disgusts a man, and a feminine man is looked upon with contempt by women. A man should endeavor to cultivate all those qualities which belong to his masculine nature; and a woman should

strive to improve herself in all those duties and graces which belong to her sex; and any attempt on the part of either sex to ape the other, is always in bad taste. The man who wears long curly hair, parted in the middle, and has small feet pinched up with smaller boots, is an object of disgust to both sexes; and even a lady dressed in boy's clothes upon the stage, always excites a certain undefinable feeling of loathing.

It will usually be found that the gentler sex fix their affections upon men most distinguished for those qualities which do not belong to the female character, and the converse is true of man. This is a great law of nature, which cannot be evaded. Admiration of any kind, is more intensely directed toward those qualities which we do not, than towards those which we do possess. Man looks for chastity, modesty and gentleness in his mate; while woman looks more for integrity, honor, strength and firmness. The most incongruous relation in this world, consists of a feminine man and a masculine woman yoked together in matrimony; the woman wearing the breeches and the man the petticoats. Such marriages should never be contracted, for they are a sin against nature, and a disgrace to society, and always render the parties miserable. This law of contrasts is beautifully illustrated by the classic statue of Hector and Andromache. The trustful mother clings about the manly form of her lord armed for the fight, as she fondly exclaims,

“Too daring chief! ah, whither dost thou run!

Ah! too forgetful of thy wife and son.”

But the most important question connected with matrimony, relates to the qualifications of the parties to meet the responsibilities, and provide for the necessaries and comforts of life. Without such qualifications, love is a dangerous passion, producing naught but misery, and infusing the elements of discord into society. Parties contracting matrimony should, therefore, look well at such matters, and not undervalue the prospects of a respectable and comfortable position in life. These responsibilities are mutual. It is the duty of every young man, to seek the highest degree of perfection in the occupation he selects for life, as it is the means of his future position and support; and it is no less the duty of the young woman, to seek those qualifications which enable her to act well her part as the wife and mother; and the success of life depends quite as much upon the one as the other. Young women should be educated to do every kind of housework, for it is impossible to tell what her future position will be; if one of moderate circumstances, such qualifications will be indispensable to the respectability and comfort of the family; if one of wealth and ease, she will know how to superintend the affairs of her own household much better than she otherwise would, and will always be wiser and better for the possession of such accomplishments. Household work should be made a study, and should be learned as a trade, and when the young woman fails in any particular branch, she should renew her efforts till she overcomes the difficulties, and perfects herself in the art. But how often do we find the young man, toiling from morn

till eve, while we find the young lady who is to become his future companion, lounging in the parlor, reading silly, sickening, sentimental tales of love, jealousy, and murder; dressing and painting for the streets, etc., etc., seeming to have no object to live for except to get married and be a burden and bill of expense to her husband. This is all wrong, and parents, who allow their daughters to grow up to womanhood in such indolence, are very likely, sooner or later, to witness the sad consequences of their neglect and folly.

Reader! are you aware of the difference between the young lady of to-day, and the one of half, or even a quarter of a century ago? Then, a lady could sing in plain musical English; she could wash and starch; bake and cook all kinds of food; milk a cow, and make butter and cheese, if necessary; and always look neat enough, in her calico or home-spun worsted, to be seen by a neighbor without stopping to dress and paint. If she didn't like to work she was called *lazy*, but now we have no lazy girls, they are all *delicate*; a strange compound of dress and nerves, which causes her to shudder at the sight of a wash-tub, and to run and scream at the switching of a cow's tail. She sings "divinely," and plays the piano "exquisitely," but neither of these is half so intelligible as the jabbering of our North American Indians. She lounges about in the morning, embroiders a little, then dresses herself up and promenades for the benefit of some "genteel exquisite;" and thus she passes her days, a mere *loafer*, for such is the meaning of the term. Let me warn gentlemen to beware of such

young ladies. Never marry the girl who *sits* in the parlor while the mother *stands* in the kitchen.

We do not mean that women should submit themselves to protracted labor, and exhausting drudgery, who are able to live in easier circumstances; but there is a universal law of nature, which requires that all our faculties, physical and mental, shall be duly exercised, and no exercise can take the place of useful work. The woman, therefore, who has no useful employment, bears upon her head the curse of Heaven; this curse works in her failing health, in her fretful temper, in her fading beauty, and in her days devoured by ennui.

A woman's proper sphere is HOME, and when she is educated to meet its duties and responsibilities, her influence is supreme, whether as mother, wife, sister, or friend. It is here that her virtues can be properly estimated; for the family is a divinely ordained institution, whence emanate all the strong and holy influences of a mother's love; all the sacred ties of parental affection and esteem, and all the fraternal and filial relations and duties of life, upon which the well-being, and very existence of society depend. How supremely glorious then is woman's mission! Who will deny that she possesses rights equal with man? Who would desecrate those rights, and make woman the mere servant of despotic men?

The following words, addressed to men and women by an Oriental Brahmin, which are translated from an Indian Manuscript, entitled the "Economy of Human Life," are replete with admonition and lessons of wisdom.

MAID—WIFE—MOTHER.

“Give ear fair daughter of love! to the instructions of prudence, and let the precepts of truth sink deep in thy heart: so shall the charm of thy mind add elegance to thy form; and thy beauty, like the rose it resembleth, shall retain its sweetness when its bloom is withered.

“In the spring of thy youth, in the morning of thy days, when the eyes of men gaze on thee with delight, and nature whispereth to thine ear the meaning of their looks: Ah! hear with caution their seducing words, guard well thy heart, nor listen to their soft persuasions.

“Remember thou art made man’s reasonable companion, not the slave of his passion; the end of thy being is not merely to gratify his loose desire, but to assist him in the toils of life, to soothe him with thy tenderness, and recompense his care with soft endearments.

“Who is she that winneth the heart of a man, that subdueth him to love, and reigneth in his breast?

“Lo! yonder she walketh in maiden sweetness, with innocence in her mind, and modesty upon her cheeks.

“Her hand seeketh employment, her foot delighteth not in gadding abroad.

“She is clothed with neatness, she is fed with temperance; humility and meekness are as a crown of glory circling her head.

“On her tongue dwelleth music, the sweetness of honey floweth from her lips.

“Decency is in all her words, in her answers are mildness and truth.

“Submission and obedience are the lessons of her life, and peace and happiness are her reward.

“Before her steps walketh prudence, and virtue attendeth at her right hand.

“Her eye speaketh softness and love; but discretion with a scepter sitteth on her brow.

“The tongue of the licentious is dumb in her presence, the awe of her virtue keepeth him silent.

“When scandal is busy, and the fame of her neighbor is tossed from tongue to tongue; if charity and good-nature open not her mouth, the finger of silence resteth on her lip.

“Her breast is the mansion of goodness, and therefore she suspecteth no evil in others.

“Happy is the man that shall make her his wife; happy is the child that shall call her mother.

“She presideth in the house, and there is peace; she commandeth with judgment, and is obeyed.

“She ariseth in the morning, she considereth her affairs, and appointeth to every one their proper business.

“The care of her family is her whole delight; to that alone she applieth her study, and elegance with frugality is seen in her mansion.

“The prudence of her management is an honor to her husband, and he heareth her praise with a secret delight.

“She informeth the minds of her children with wisdom, she fashioneth their manners from the example of her own goodness.

“The word of her mouth is the law of their youth, the motion of her eye commandeth their obedience.

“She speaketh, and her servants fly; she pointeth, and the thing is done.

“For the law of love is in their hearts, and her kindness addeth wings to their feet.

“In prosperity she is not puffed up; in adversity she healeth the wounds of fortune with patience.

“The troubles of her husband are alleviated by her counsels, and sweetened by her endearments; he putteth his heart in her bosom, and receiveth comfort.

“Happy the man that has made her his wife; happy the child that calleth her mother.”

HUSBAND.

“Take unto thyself a wife, and obey the ordinance of God. Take unto thyself a wife, and become a faithful member of society.

“But examine with care, and fix not suddenly. On thy present choice, depends thy future happiness. If much of her time is destroyed in dress and adornments; if she is enamored of her own beauty, and delighted with her own praise; if she laugheth much, and talketh loud; if her foot abideth not in her father’s house, and her eyes with boldness rove on the faces of men; though her beauty were as the sun in the firmament of Heaven, turn thy eyes from her charms, turn thy feet from her paths, and suffer not thy soul to be ensnared by the allurements of imagination.

“But when thou findest sensibility of heart, joined with softness of manners; an accomplished mind, with a form agreeable to thy fancy; take her to thine house; she is worthy to be thy friend, thy companion in life, the wife of thy bosom.

“Oh cherish her as a blessing sent thee from Heaven. Let the kindness of thy behavior endear thee to her heart.

“She is the mistress of thy house; treat her therefore with respect, that thy servants may obey her.

“Oppose not her inclination without cause; she is the partner of thy cares, make her also the companion of thy pleasures.

“Reprove her faults with gentleness, exact not her obedience with rigor.

“Trust thy secrets in her breast; her counsels are sincere, thou shalt not be deceived.

“Be faithful to her bed; for she is the mother of thy children.

“When pain and sickness assault her, let thy tenderness soothe her afflictions; a look from thee, of pity and love, shall alleviate her grief, or mitigate her pain, and be of more avail than many physicians.

“Consider the tenderness of her sex, the delicacy of her frame; and be not severe to her weakness, but remember thine own imperfections.”

But marriage may be regarded as a remedy. When contracted with due regard to morality and affection, it is good for the body and the mind, and single-blessedness is

not very blessed after all that can be said in its favor. Next to unhappy marriages, celibacy is probably one of the most miserable conditions of life, and we would warn persons of both sexes against it. Every man is made for a woman, and every woman is made for a man, unless they were spoilt in making. But we said marriage might be regarded as a remedy. With the male sex, marriage, properly used and not abused, corrects many morbid affections, makes the muscles firmer, the step more elastic, and the voice more masculine, and increases the energy and vigor of the system. Every manly attribute becomes more boldly developed, and a new dignity and lustre is added to the mind.

As to young women, especially those of a warm and affectionate disposition, there can be no doubt that the natural exercise of the organs of reproduction, has the happiest effects upon the system. It not unfrequently acts as a most potent and effectual remedy. Such female disorders as painful menstruation, leucorrhœa, hysteria, irregularities, etc., usually disappear soon after marriage, unless long habit, or some new disturbing cause prolong them; and, therefore, when the young marriageable maid exhibits symptoms of the approach of such disorders, she should be united to the object of her affections, if consistent with prudence and morality. On this subject the advice of Hippocrates, though more than two thousand years old, is still applicable, for he prescribes marriage as the *natural remedy* for many wasting female diseases.

When we commenced this chapter, we expected to de-

vote a portion of it to the consideration of the civil laws relating to matrimony, divorces, the disposition of property among married persons, etc., but we find we have no space for the discussion of such questions. We will, however, remark that we regard the statute laws, in most of our States, touching these matters, as immoral, unjust, and oppressive. They afford no safe-guards against hasty and immoral marriages. Young people meet for the first time, and in twenty-four or forty-eight hours afterwards, hasten off to the magistrate or minister to be united in matrimony; clandestine marriages are made through the newspapers, and young persons run away from their parents, and in a few hours are united in marriage, no notification or publishing of the intentions of the bands of matrimony being required by our laws as they stand at the present time. But the marriage having taken place, the laws are so framed as to perpetuate its existence, though accompanied by the most hideous depravity, crime and misery. In New York, if one of the parties is convicted of felony, or deserts the other for the period of five years, nothing being heard from the absconder during the time, the innocent party is free to marry again; but a *divorce* can be obtained for no causes except adultery, which, from the very nature of the case, is always a difficult thing to prove. One of the parties may become the very embodiment of his Satanic majesty, still there can be no divorce without evidence to establish the crime of adultery, and the laws are not much better in Pennsylvania and many other States.

But there is one State, at least, where a more just, liberal, and magnanimous sentiment prevails upon this subject. In that State, any defects of character, which prevent married persons living together in peace, are sufficient causes for the dissolution of the bands of matrimony; and it is fortunate that there is such a State as a sort of outlet for the smothered abominations, eruptions of crime, and disturbances of society, which result from such forced alliances.

When, therefore, married persons cannot live together, except in misery, arising from jealousy, want of fidelity and respect for each other, the sooner an eternal separation takes place the better for the parties themselves and for society; for an unhappy marriage is a hell upon earth, and to perpetuate it is a crime in the sight of Heaven. We do not, of course, speak of temporary and trivial faults, which should always be settled by the parties themselves, without the interference or even knowledge of third parties; but we speak of those radical defects of character which must always continue to render the marriage relation one of dishonor, disgrace, and misery. In such cases break the vinculo matrimonii and be guided by lessons of wisdom in the future.

A few words respecting the physical causes of unhappy marriages must close this chapter.

There are certain affections which often destroy conjugal happiness, and inflict the bitterness of despair and humiliation upon thousands. When matrimony is contracted under the most promising auspices; when all seems fair

as a summer landscape; how often there comes a blight that crushes hope, and sows the seeds of discord among families. We all know this is a common occurrence, but the causes are usually hid behind the curtains of false pride and modesty. Sometimes these causes date from the bridal-day itself, at other times they seem to arise suddenly from certain remote causes, which the sufferer, without competent medical advice, cannot even conjecture.

Much misery is frequently produced by a fear that the impediments which disappoint expectation, and baffle enjoyment, are incurable, when the state of things is by no means so deplorable, but perfectly under the control of the medical man skilled in this department of medical science. We would, therefore, admonish such persons not to decide too hastily against themselves or the partners of their beds, but to ascertain if the impediments, whatever they may be, cannot be removed. Young man! young woman! be guided by the dictates of sound reason; let your best judgment prompt you to act sensibly in matters of such importance. Be careful not to place your happiness in the hands of a physician who gives no evidence of investigation and skill in this branch of practice, and then brood over your sorrows the rest of your life, and denounce the medical art as insufficient to afford you relief! For there is no department of medicine which requires so much investigation, skill, caution, and delicacy, on the part of the physician, as that which deals with the relations between the sexes and those physical causes which produce wedded happiness or the reverse.

CHAPTER V.

PREGNANCY OR GESTATION.

Extra-uterine pregnancy—False pregnancy—The non-gravid womb—The changes and enlargement of the womb during pregnancy—The origin, development, and uses of the membranes, placenta, umbilical cord and bay of waters—The appearance and size of the fœtus at different periods of its development—The nutrition of the fœtus—How the blood is purified in the placenta, and the blood pabulum transmitted from the mother to the fœtus—Practical inferences—Diseases of the man communicated to the woman through the placenta—The likeness and peculiarities of the first husband communicated to the children of the second husband, etc.—The duration of pregnancy—Great variations—The Gardner peerage case—Duration of pregnancy in a crazy woman—Variations in the lower animals—Dr. Reid's table—The signs of pregnancy—Cessation of the menses—Morning sickness—Changes in the breasts—Quickening—Form of the abdomen—Changes in the mouth and neck of the womb—Rebound of the fœtus—Sounds of the fœtal heart, etc.

WHEN describing the male and female genital organs, we gave special attention to the functions of the ovaries and testicles; the former furnishing the ova or female germ-cells, and the latter the spermatozoa or vital element of the male spermatic fluid. We have shown that the union of these two elements is indispensable in the production of a

new being and the perpetuation of the species. Now the contact of these elements constitutes fecundation, and the reception and fixedness of the fecundated ovum within the cavity of the uterus are properly denominated conception, and the development and growth of the ovum, till it is fully prepared for an independent existence, are known as pregnancy or gestation.

Previous to quickening, the fecundated ovum is usually called the embryo; after that period it is more properly called the foetus; but when it is born into the world it is no longer a foetus, but the babe, the infant, the child.

By some freak of nature, or more properly, some interference with the legitimate processes of nature's laws, the fecundated ovum is not always lodged in the womb, and pregnancy goes on, for a time, outside of the cavity of that organ. It is sometimes found in the substance of the ovary, and is called ovarian pregnancy; it is also found in the fallopian tubes, and is called fallopian pregnancy; at other times it is found in the peritoneal cavity of the abdomen, and is called abdominal pregnancy; and it has been found in the muscular tissue of the womb itself, and has been called interstitial pregnancy. The general term extra-uterine pregnancy is applied to any or all of these abnormal conditions. Such cases are rare, and when they occur the growth is usually arrested at an early period; and the ovum is decomposed and disappears by absorption, or remains encysted in the body of the mother.

We sometimes find fleshy growths of various kinds within the cavity of the womb, more or less simulating

pregnancy, and hence denominated false pregnancy. These are called moles. They are without form or comeliness, attain various sizes, remain in the womb for variable periods, and have many peculiarities, which we cannot find space to describe in this work. Let us, therefore, pass at once to consider the more profitable and interesting theme of natural pregnancy. Connected with this theme there are many phenomena, which we shall point out with as much brevity as may be consistent with clearness and a general knowledge of the subject.

With the exception of the period of menstruation, the healthy non-gravid womb is perfectly quiescent, and has little influence in the animal economy; but when fecundation takes place, even before the vitalized ovum is lodged in the cavity of the womb—if fecundation takes place in the fallopian tube—a new action commences. It no longer remains in a state of rest, but has important duties to perform; and its vital force and nutritive elements are greatly increased; and the results of such increased action, are the growth of the organ itself, and the nutrition and development of the foetus and the other contents of the womb subservient to its intra-uterine existence.

In its unimpregnated state, the cavity of the womb is little larger than a split almond; but at full term it has so enormously increased, that it contains a foetus weighing eight or nine pounds, the after-birth, weighing two or three pounds, and one or two quarts of the liquor amnii. At the fourth month the womb rises out of the pelvis, and the female begins to realize that she is becoming larger;

about the sixth month it rises above the umbilicus, which no longer remains sunken, but like the nipple, now becomes prominent; about the eighth month it rises into the epigastric region, and by pressing the stomach and a portion of the large intestines upwards against the diaphragm, interferes, more or less, with respiration. But two or three weeks before labor commences, it sinks down into the pelvis, relieving the difficult breathing, and causing the upper portion of the tumor to become flatter. As this growth and change of position takes place, the intestines are crowded behind the organ.

This enlargement of the uterus commences in its fundus; next, its body begins to enlarge; and about the sixth month the neck begins to shorten, and at the full term, has entirely disappeared in the lateral expansion of the organ.

The older physicians taught the doctrine—and those not read in medicine have a vague idea of the kind at the present day—that the enlargement of the uterine cavity depends upon the pressure of the foetus, after-birth, and bay of waters upon the internal surface of the uterine walls; in short, that it was a mechanical process, the parts being stretched out by pressure as you would stretch out an india-rubber bag. But if this view were correct, the walls of the uterus would become attenuated as the cavity enlarged, and at full term they could not be thicker than the membrane which lines them, which is very far from being the fact; indeed, they become thicker during the first six months of gestation. After this time it has been proved that they diminish somewhat in thickness, but at

full term, though not of uniform thickness, the average thickness is about the same as the unimpregnated uterus. These facts prove that the organ actually grows in tissue and bulk as really as the foetus itself grows. The actual bulk of the womb is, therefore, about twenty-four times as large at the end of pregnancy as it is before pregnancy takes place. But the medical man should bear in mind that the enlargement of the uterus is not the only change it undergoes; its parietes become soft and pulpy, so that when the hand is introduced into the womb for obstetrical purposes, if the finger should be projected against the walls during a pain, it might be thrust through them. This softening seems to depend, in a great measure, upon the great enlargement, which takes place in the caliber of the blood-vessels; for these vessels, which before were no larger than a fine needle, are now as large as a crow's quill. Indeed, every tissue of the organ is enlarged, the muscular structure, the blood-vessels, the nerves, the mucous membrane lining the cavity, and the serous membrane or peritoneum lining it upon the outside; but its actual growth consists, in a great measure, in the increased amount of muscular fibre furnished the organ during the progress of gestation. The appendages of the uterus, such as the ovaries, the fallopian tubes, the ligaments, and the vagina are also enlarged, though not in the same proportion as the uterus. And the vagina, and external organs of generation, undergo great softening towards the latter part of gestation, to prepare the way for the safe passage of the child into the world.

Let us now notice the appendages of the foetus. These consist of the membranes, the liquor amnii, the placenta, and the umbilical cord. There are three original membranes, viz., the membrana decidua, the chorion, and the amnion; the first belonging to the womb, and the last two to the ovum. Very soon after fecundation the surface of the membrane lining the cavity of the uterus becomes thickened, soft, and pulpy, and in due time is separated from the uterus, and at birth expelled with the other appendages; hence the name *decidua*, to throw off. This membrane is studded with minute tubes, which become thickened and pour out a fluid into the cavity of the womb, and subsequently form a part of the placenta. Into this rough, pulpy surface, the ovum becomes entangled, or is fixed, whence its development commences, and another membrane, supposed to be derived or reflected from the first, grows up around the ovum and continues its growth till it forms a complete covering for it. This is called the decidua reflexa, the first being called the decidua vera, and as the ovum increases in development they approach nearer each other, and about the end of the third month they are entirely blended together, forming two layers of one membrane.

The chorion is a very thin, transparent membrane, forming one of the constituents of the ovum very soon after it is fecundated. When lodged in the womb there is produced upon its outer surface very minute prolongations, down-like in their appearance, called villi or tufts. These villi absorb the nutrient elements of the fluid poured out

by the membrane first described, which is the source of nutrition for the embryo till the placenta is formed.

The amnion is the very delicate internal membrane of the ovum, slightly adhering to the chorion by means of some mucous filaments upon its outer surface. The internal surface is separated from the embryo by means of the liquor amnii. Now all these membranes during the progress of gestation adhere to each other, form so many layers of one membrane, called the membranous sack, and a complete investment for the foetus. This sack, together with the liquor amnii furnished by the amniotic membrane is commonly spoken of in the lying-in chamber as the *bay of waters*. The quantity of this fluid at the time of child-birth, is subject to great variations. Sometimes the rupture of the sack during labor gives rise to a very slight discharge of fluid, and for that reason the labor is sometimes spoken of as a *dry* labor. At other times, there will pass from the uterus two or three quarts of fluid, causing needless alarm for the safety of the patient.

The uses of the liquor amnii are obvious and important. The foetus not lying in contact with the walls of the uterus, but actually floating in the fluid, is unaffected by the slight concussions of the womb, arising from exercise and such slight accidents as the female is constantly exposed to. If the foetus lay in contact with the womb, the slightest concussions would be sufficient to produce its death and expulsion. Another use of the liquor amnii, seems to be to prevent the adhesion of parts of the foetus, which are

designed by nature to remain separate after birth. In uterine life, the thighs are flexed upon the abdomen, the legs upon the thighs, the chin upon the breast, and the arms are folded across the body; without a lubricating fluid, therefore, interposed between those parts till birth, they would certainly adhere, or grow together. It also prevents the cord from pressure, allows the natural movements of the foetus in the womb, and greatly facilitates labor by aiding in the dilatation of the parts through which the child must pass. In short, it is indispensable to the development and existence of the foetus.

The placenta and umbilical cord—the only mode of communication between the mother and the foetus—now claims our attention. The word placenta signifies a cake, and it has the resemblance of a flat, spongy cake. It varies greatly in size, but on an average is about six inches in diameter, and one inch thick at the centre, gradually diminishing in thickness towards the circumference. Its general form is round and flat. Now let us consider how it is developed. When describing the membranes, we stated that the *membrana decidua* was tubular, and that these tubes poured out a fluid into the cavity of the uterus for the nutrition of the ovum till the formation of the placenta, and that upon the outside of the chorion there were formed very small projections called villi or tufts, which acted as absorbents in taking up the fluid. There are, therefore, two distinct portions of the placenta; the one formed from the decidua, called the maternal, and the other from the chorion, called the foetal portion. As the

development goes on, the blood-vessels of the maternal portion are enlarged, and form sinuses or canals, which communicate with the arteries of the uterus. The villous tufts of the foetal portion of the placenta are at the same time furnished with blood-vessels, but very different from the others. They consist of capillary loops having no open mouths, and, therefore, no direct communication with the blood-vessels on the maternal side. These little loops are made to dip down, as it were, into the sinuses of the maternal part of the placenta, and the delicate membrane forming the walls of the sinuses extends over them, and around and between them, thus entangling them in their meshes, and holding these two portions of the placenta in close contact. Thus the placenta is formed, about the end of the second month. And the umbilical cord is the direct channel of communication between it and the foetus. One of its extremities is attached to the placenta, usually near its centre, and the other at the navel of the child. It has two arteries and one vein, and a membranous covering derived from the amnion and chorion. As a general rule, it is nearly as large as the little finger, and its average length is fifteen or twenty inches, subject, however, to great variations, being sometimes only six or eight inches, and at other times three or four feet long.

Let us now notice the appearance of the ovum at different stages of its embryonic and foetal development, and then inquire how its nourishment is derived from the mother through the medium of the placenta.

If we lay open the uterus of a female who has died

about fourteen days after fecundation, we shall find a vesicle about as large as a pea, containing a thick fluid, in the midst of which will be seen a small opaque spot. This is the ovum surrounded by the chorion and amnion. But if we make the examination at about twenty-one days, we shall no longer find the embryo in the form of a vesicle, but it will be elongated, and in its general outline, will resemble a large ant. It is now about one-third of an inch long and weighs three or four grains. At this period, cartilage, which subsequently becomes bone, is said to commence forming.

At the end of a month, the embryo is about one inch long and resembles a worm bent into three-quarters of a circle. The head is much larger than the body, and a faint outline of organs can be discovered. At one month and a half, the eyes, mouth, and nose are strongly marked, and the fingers and toes begin to form; and at two months the nose becomes prominent, the external ear begins to form, the heart and brain are seen to be partially developed, and the sexual organs may be discovered. At this period it is about two inches and a half long.

At three months the general outline of the embryo is well defined. The heart is formed, and beats with considerable force, and red blood courses its way through the foetal vessels. The sexual organs are now prominent, and the embryo is about four inches long and weighs two or three ounces.

At the expiration of the fourth month, an important change takes place in the foetus. The muscular system is

now sufficiently developed to enable it to execute some slight movements in the womb. This is called quickening; the mother feels the motions of the child, which give the sensation of fluttering in the womb. They are sometimes felt a little earlier, and at other times later than four months, but they usually become so strong during the fifth month that they can no longer be doubted by the mother. During the fourth and fifth months, the head and liver, which had become enormously developed, as compared with other parts of the body, are held in check somewhat, to allow other parts to receive greater proportional development. At the end of the fifth month the length of the foetus is eight or ten inches, and its weight is one pound or a little more.

During the sixth and seventh months, the hair appears upon the head, the nails are formed, the testicles descend into the scrotum, the bones are well formed, and the features are well developed; and if born at the commencement of the seventh month it can breathe, and cry, and nurse, and by proper attendance may survive and become a sprightly child. At this time it is twelve or fourteen inches long, and weighs two and a half or three pounds.

During the next two months the foetus grows in strength and volume; the form of every part is more fully perfected; the motions of the child become lively and brisk; the heart pulsates with greater force and circulates the blood, which has now become rich and abundant; the intestines contract slightly upon the meconium causing a portion of it to escape into the bay of waters; and at the

end of nine months, or, more accurately, forty weeks—the natural term of gestation—it is, on an average, about eighteen or twenty inches long and weighs from seven and a half to eight and a half pounds. The child is now sensitive to pain, and it cries from cold and hunger, or a crammed and overdistended stomach, and from the painful thrusts of those sharp-pointed instruments so commonly employed to fasten its dress. But, though sensitive to pain, its intellectual faculties are greatly in abeyance, and are to be developed gradually, but slowly, as it advances towards adult life. When the child is born into the world it appears more like some strange abnormal vegetable production than a human being, destined to possess all the reason, affection, and capabilities of a grown-up man or woman. At that time, and for some time afterwards, it has far less intellectual activity than almost any quadruped when born into the world, and consequently it is more dependent upon others for its sustenance and continued existence.

This running description of the appearance of the foetus at different stages of its development must suffice. Let us now inquire how the foetus is nourished, for every growing thing, and, indeed, every living thing, must receive nutrient materials from some source. We have already more than intimated that the growing foetus derives its nourishment from the mother, through the medium of the placenta, but when describing the formation of the placenta, we stated that there was no continuity between the blood-vessels on the foetal side and those upon the maternal side. We stated that the capillary vessels upon the

foetal side passed around the villous tufts in the form of loops, and that those loops dipped down into the blood-vessels, called sinuses or canals, upon the other side, and it has been proved, almost times without number, both by microscopic examinations and injections, that this is the true arrangement. If we take a placenta and macerate it in water for a sufficient time, all its spongy portion will be separated from its vessels. We shall then discover a congeries of innumerable vessels, one portion of which communicates with the vessels of the umbilical cord, and the other portion with the vessels of the womb; and we can clearly demonstrate that these two forms of vessels have no communication with each other. Again, we can inject a fluid into the umbilical cord, and completely fill the vessels belonging to the foetal portion of the placenta, but not one drop of the injection will pass over into the vessels belonging to the maternal portion. We can also fill the blood-vessels in the maternal portion of the placenta by injecting the arterial system of the mother, who dies towards the end of gestation, but not one particle will pass into the blood-vessels on the foetal side. How then can the foetus receive its nourishment from the mother through the medium of the placenta? The following is the explanation:—

1. The placenta is the foetal lungs; in other words, the blood is purified in the placenta, as it is purified in the lungs of breathing animals. The lungs of the foetus before birth have no function to perform, and no blood passes to them, except the slight amount necessary for their growth

and development. But when the child becomes a breathing animal, all the blood goes to the lungs to be purified. In its round of circulation, it gives up its nutrient materials for the growth and repair of the system, and takes up the disintegrated, or waste material of the system, which it parts with in the lungs in the form of carbonic acid gas, and at the same time receives its necessary supply of oxygen. But the blood does not come in contact with the air, there being a delicate membrane interposed, through which this important process is constantly taking place. If we take a fresh animal membrane, and place it between two fluids of unequal density, or of different properties, there will be an interchange of the fluids through the membrane till they become thoroughly mixed. This process is constantly going on in the animal system, and is designated by the terms *endosmose* and *exosmose*, the former meaning the passage of fluids from without inwards, and the latter, from within outwards. The same process is at work in the placenta. The capillary loops of the villous tufts being projected and bound into the sinuses of the placenta, as we have explained, they are constantly bathed in the blood of the mother. The blood of the foetus being deprived of its oxygen in the foetal system, and charged with carbon, courses through the arteries of the umbilical cord and is spread over the whole extent of the foetal portion of the placenta, and passes through all the capillary loops, giving up its carbonic acid gas and receiving oxygen from the blood of the mother, through the delicate membrane forming the walls of these capillary vessels, and it is then re-

turned through the umbilical vein to the foetus for its nutrition and growth. By this process the reader will perceive that the blood of the mother in the maternal portion of the placenta becomes impure; but this passes on to mingle with impure blood from every other part of the mother's system, and goes to her lungs to be renovated, while its place is being supplied with the rich, fresh pabulum.

But in breathing animals, we have the digestive system; food is provided in abundance, the nutritive elements of which are converted into blood, thus keeping up the necessary supply of the blood pabulum. So the foetus must be supplied with blood material from some source. What is this material, and how is it furnished? It was once supposed that it was furnished by the liquor amnii; and as this fluid contains albumen and salts, which are nutritive elements, it is quite probable that some portion of the blood material is derived from that source of absorption. But the principal, if not the entire supply, is derived from the mother through the placenta. This substance is not albumen, as was once supposed, for it has been proved that albumen cannot pass through animal membranes; but there is a nutritive substance found in the blood of pregnant women, which *does* have the power of percolating membranous tissues. This is called *albuminose*, and it is this which passes from the mother to the foetus, through the only medium of communication, the placenta. Here then we have an abundant supply of blood pabulum for the foetus. The reader will, therefore, perceive that the placenta has a double office to perform, that of the foetal

lungs, and that of furnishing the foetus with blood material, the albuminose.

Connected with this explanation, there is a practical suggestion, which it would be improper to withhold from our readers. The transmission of various constitutional diseases from the parent to the offspring, is one of the most uniform and common occurrences in nature. If the father or the mother, is tainted with such diseases as scrofula, phthisis, syphilis, etc., they will exist in the spermatozoa or ovum, which are a part of their own bodies, and they will be developed in the foetus and in the future child, sometimes held in check, it is true, by various counter-acting circumstances. This everybody understands. But our knowledge of the functions of the placenta carries us one step further. It teaches us that the diseases of the father in the spermatozoa, may be transmitted to the mother through the medium of the placenta, and that the mother may afterwards transmit the same disease to the offspring of a second husband. And this accords with the most diligent inquiry, and the most careful observations of the best medical authorities. Every physician, of large practice, will be called upon to treat cases of syphilitic contamination that can be traced to no other source. There is nothing unreasonable in this doctrine; for if the excrementitious and waste material of the foetus passes through the placenta into the system of the mother, any diseased element existing in the foetus, however subtle and undefinable, may be transmitted to the mother through the same medium, and impress itself upon her system.

But there are other things in nature, still more subtle and mysterious, that are, perhaps, explicable upon the same theory. When a woman has had two husbands, and children by both, the second children are very apt to resemble, more or less, the first husband. His features and even peculiarities of disposition, are sometimes entailed upon the second children. Now, the explanation is this: The characteristics of the first husband were impressed upon the mother's system through the foetus in utero, and transmitted from the mother to the children by her second husband. As an illustration of this doctrine, we may mention the well known fact, as given us by horse breeders, that if a mare is covered by a jack, and has a mule, and afterwards has colts by a stallion, the latter will always be a little mulish in their disposition. Now all such cases have heretofore been attributed to the imagination, but we think the doctrine of transmission more in accordance with reason, though imagination will sometimes accomplish wonderful things.

THE DURATION of pregnancy is a question of no trifling import, often involving the honor and happiness of families and individuals. The popular notion seems to be, that a woman carries her child nine calendar months; and this has been indorsed by the profession as a sort of general calculation. But it is not intended to be accurate. Indeed, it expresses no definite length of time, as some months are shorter than others. If you include February in your calculations, whether you begin with that month or end with it, you will have three months of thirty days

each, one of twenty-eight days, and the other five thirty-one days each, making two hundred and seventy-three days in the nine calendar months. But if you commence with March, you will have four months of thirty days each, and nine months will contain two hundred and seventy-five days. But if you commence so as to have but three short months, leaving out February, you will have two hundred and seventy-six days, which is the greatest number of days you can get in nine calendar months.

This reckoning is not only indefinite, but by a general agreement of the most distinguished accoucheurs in this and other countries, it is a little too short. The time has, therefore, been more accurately fixed at forty weeks, or two hundred and eighty days. This is ten lunar months, each embracing a period of about twenty-eight days. When discussing the question of menstruation, we stated that the menstrual period did not appear every calendar month, but every lunar month, or about once every twenty-eight days. Labor, therefore, commences at the time when menstruation would take place were the woman not pregnant, which general law we have always advocated.

But is forty weeks, or two hundred and eighty days, a universal and unchanging law, or does it admit of exceptions? May a fully developed foetus be born into the world before that period, or may the birth be protracted beyond it, and if so, how long? If a woman give birth to a child two or three weeks before the expiration of forty weeks since her marriage, does it make the offspring illegitimate? or if a man be absent from his wife and she

should have a child two hundred and ninety, or three hundred days, from the time she was first with her husband, is that positive proof that she is an adulteress, and her child a bastard? The reader will perceive that these are grave questions. They often find their way into our courts of justice, and in their legal and moral aspects, they are the proper subjects of investigation by the lawyers; but the medical question must be decided by the doctors; and, for this purpose, their testimony is always required.

Upon this question the profession was once divided in opinion, some distinguished accoucheurs maintaining that the term of gestation is a fixed law, not liable to any material variations; while others, equally distinguished, took the other side of the question. In Taylor's Medical Jurisprudence, we find an account of a celebrated case called the Gardner Peerage Case, which came before the House of Lords, in 1825. Allen Legge Gardner, claimed the peerage on the ground of being the son of Lord Gardner, by his second wife. But the peerage was also claimed by another person, Henry Fenton Jadis, who alleged that he was the son of Lord Gardner by his first wife. Now, Lord Gardner was separated from his first wife, and in another country, and it was clearly shown that if this Henry Fenton Jadis was his son, he must have been begotten three hundred and eleven days before his birth. Distinguished accoucheurs were summoned to testify, as to the time that a woman might carry her child, and the following was the opinion of the illustrious Sir Charles Clarke: "I have never seen a single instance in which the laws of

nature have been changed, believing the law of nature to be, that parturition should take place forty weeks after conception." The testimony of Dr. Gooch, and three others, was to the same effect. But on the other side of the question we find eleven physicians, equally eminent, testifying to the variableness of the term of gestation in language of no doubtful import. The decision of the House was against this Henry Fenton Jadis, but chiefly upon moral grounds, as it was shown, that during the absence of Lord Gardner, Lady Gardner was living in open adultery with a man by the name of Jadis, who was doubtless the real father of this claimant of the peerage.

The following case, which occurred in the practice of Desonneaux, of Paris, may be of interest to our readers.

"A lady, the mother of three children, became deranged after a severe fever. Her physician was of opinion that pregnancy might have a beneficial effect on the mental disease, and permitted her husband to visit her; but with the restriction that there should be an interval of three months between each visit, in order that, if conception took place, the risk of abortion, from further intercourse, might be avoided. The physician and attendants made an exact note of the time of the husband's visits. As soon as evidences of pregnancy began to exhibit themselves, the visits were discontinued. The lady was closely watched during the whole period by her female attendants. She was delivered at the end of nine calendar months and a fortnight, and Desonneaux attended her. If the nine calendar months were those of the smallest number of

days they would have equalled 273, in addition to which must be taken into the account the days of the fortnight, which will make 287 days; but if the calendar months were of the longest period, there would be 276, to which are to be added 14, giving an aggregate of 290 days."

That the duration of pregnancy in the human female admits of considerable variation is confirmed by observations upon the lower animals. The usual term of gestation in the cow, is from forty to forty-one weeks. Out of 1059 cases carefully noted by one investigator, the extremes were thirty-eight and fifty-one weeks, 12 having calved on the thirty-eighth, and 1 on the fifty-first week, the greatest number being on the fortieth and forty-first weeks. The usual term of gestation in the mare is from the forty-ninth to the fiftieth week; and in 447 cases, carefully noted, it was found that about the same variations exist as have been observed in the cow. The same variations are observed in sheep, rabbits, dogs, cats, and other animals. The same thing is observed in birds, some of the eggs hatching a day or two before others.

Without going into this subject more in detail, for the want of space, we will here state that our own observation, and all the information we have been able to gather upon this interesting subject long since led us to the conclusion that the period of gestation might vary a lunar month either way from the usual time. But it should be remembered that such extremes are exceedingly rare, and not to be looked for as common occurrences. It is well-known, however, that first children very often anticipate

the usual time one or two weeks, and sometimes much longer.

Dr. James Reid has carefully noted forty-three cases, which, after he had exhausted every available means of investigation, he believed to result, in each case, from a single coition, and he makes the variations from the general time, twenty days either way. The following is his table:—

260	days	after	single	coition	delivery	occurred	in	1
263	"	"	"	"	"	"	"	1
264	"	"	"	"	"	"	"	2
265	"	"	"	"	"	"	"	1
266	"	"	"	"	"	"	"	2
270	"	"	"	"	"	"	"	1
271	"	"	"	"	"	"	"	2
272	"	"	"	"	"	"	"	3
273	"	"	"	"	"	"	"	1
274	"	"	"	"	"	"	"	7
275	"	"	"	"	"	"	"	2
276	"	"	"	"	"	"	"	5
278	"	"	"	"	"	"	"	1
280	"	"	"	"	"	"	"	3
283	"	"	"	"	"	"	"	2
284	"	"	"	"	"	"	"	1
286	"	"	"	"	"	"	"	1
287	"	"	"	"	"	"	"	2
291	"	"	"	"	"	"	"	1
293	"	"	"	"	"	"	"	2
296	"	"	"	"	"	"	"	1
300	"	"	"	"	"	"	"	1

We will now pass to consider another part of our subject, viz : the signs or evidences of pregnancy. Does pregnancy exist ? This is often a question of great practical importance. The patient and her friends are usually able to decide this question for themselves, with more or less certainty, as the signs appear during the progress of gestation ; but every now and then cases will arise, especially during the first months of pregnancy, the decision of which is exceedingly difficult, owing to the absence or obscurity of some of the usual signs, or an attempt to practice deception as to the true condition of the female. In such cases the best medical skill will be necessary to decide the question correctly. Some of these cases may involve interests of no trifling moment, and the opinion of the medical man may be required by the patient herself, by her friends, or by a court of justice, and upon his decision may depend virtue, honor, the reputation and happiness of families, and the disposition of property.

Without attempting to notice all the changes which take place in the condition of the female during gestation, we invite attention to the most prominent as signs or evidences of that condition ; and first in order we will notice

THE CESSATION OF THE MENSES.—As a general rule, when a woman conceives, she ceases to menstruate, and if she is living with her husband, and is not at the time nursing, and she passes over her menstrual period without the loss of blood, she at once infers that she is in a family-way, or thinks she has been caught, and makes her calculations accordingly. But the physician places less reliance

upon this symptom, as it is subject to great variations. Young women, before menstruating, have been known to conceive; nursing women often conceive before their menses return; and a woman may possibly conceive late in life, after her menstrual function has entirely disappeared. Cases of the latter kind are very rare, it is true, but it is well enough to know that they exist. Now the above cases can have no connection with the menstrual function as a sign of pregnancy.

It should also be remembered, that, in the newly married woman, the menses will occasionally be arrested, for one or two months, when conception has not taken place, as the result of the new relation of the female.

There is a general opinion that, as a rule, woman does not become pregnant while she nurses her child; but this rule is subject to so many exceptions that it can hardly be called a rule, for it is a very common thing for nursing women to conceive before their menses return, and hence the menstrual function can be no sign of pregnancy in such cases.

Occasionally a woman will be found, who menstruates after conception has taken place; it may go on for three or four months and then cease, or it may continue till full term of pregnancy. To some, this will seem impossible, and the question will arise as to the source and character of the discharge. Is it true menstruation? This question we cannot discuss here. It is sufficient to state that it so closely resembles menstruation in its periodical returns, its duration, quantity, and appearance, that not only the

patient, but her medical adviser, is completely baffled in attempting to find a difference.

But the principal reason why the cessation of menstruation is an uncertain sign of pregnancy, is the fact, that the suppression of this function often depends upon other causes. Almost every woman knows, that exposure to cold, and wet, just before the menstrual period, or while her menses are upon her, is one of the most frequent causes of suppression. Various diseases, hardships, and fatigue; also strong mental emotions, will produce the same result. In short, one of the most common complaints among females is the suppression of the menses depending upon some of these causes.

What, then, is the value of this sign? It is of some value in two ways: 1. If a woman is living with her husband, and in a condition to become pregnant, and is usually regular in her monthly turns; if these conditions exist, and she pass over her monthly period without having her courses, and without being able to attribute the cessation to any other cause she will most probably find herself pregnant. 2. It is of value in connection with other evidences of pregnancy, when we are called upon to form an opinion in doubtful and obscure cases.

MORNING SICKNESS.—This symptom usually appears in two or three weeks after conception, but it may appear almost immediately, and at other times it may be postponed till the last months of pregnancy; and it is sometimes absent altogether. It is different, in some respects, from sick stomach arising from ordinary causes. When the

female awakes in the morning, she may feel as well as usual, but on rising from her bed she experiences a qualmish sensation, and soon retching commences. This sick stomach is not necessarily connected with any other condition of poor health, but in all other respects, the patient may enjoy perfect health; she may take her meals with as much relish as before, but shortly after eject the whole contents of her stomach, and then brighten up, and appear as lively and well as ever.

In such cases, there is no positive disease of the stomach, but a little irritability arising from the sympathy which exists between that organ and the womb, and we should not forget to mention, that any organic disease of the womb and suppression of the menses from any causes whatsoever, may be followed by irritability of the stomach, though different in some respects from that of pregnancy.

This morning sickness cannot, therefore, be looked upon as a positive sign of pregnancy, as it is sometimes absent altogether, and at other times may be simulated by other causes; but when it exists, it is a most valuable sign in connection with others. If a woman has been in a condition to become pregnant, and her menses have been suspended, which she is unable to account for in any other way, and she has the morning sickness, which is persistent, she may make up her mind that she is in a family-way, and the chances are, as one hundred to one, that she will not be disappointed.

CHANGES IN THE BREASTS.—About the end of the second month of pregnancy, changes usually commence in

the breasts, which, in connection with other evidences of gestation, are of great value. A sensation of throbbing, and tingling, and undue fullness of the parts, is experienced by the female. The parts feel as though they were put upon the stretch, and they gradually become fuller and firmer; the nipple becomes more prominent, and the veins coursing along the breasts become distended, and as the pregnancy proceeds, the mammary glands assume their function as secreters of milk. But this last sign does not usually appear till the last months of gestation, though it may appear much earlier, and cases are on record of milk being found in the breasts of virgins, the action of the mammary being excited by the application of a child to the nipple; and, strange as it may appear, a few cases are recorded of men giving suck from the same cause. But the period of these changes are subject to great variations, sometimes appearing very early, at other times at a much later period; and in women of very delicate constitutions we sometimes find no perceptible enlargement of the breasts and no secretion of milk up to the full time of pregnancy. It should also be remembered, that causes entirely independent of pregnancy will sometimes produce the changes we have named. It is quite common for women to suffer from tension of the breasts, at the time of the monthly turns, and also as the result of the suppression of the menses, and various diseases of the womb.

But the change which takes place in the condition of the areola is a more valuable sign of pregnancy. By the areola we mean that circle, which immediately surrounds

the nipple, and which is of a different color from any other part of the breast. It is about an inch in diameter, and it is extended, somewhat, as pregnancy advances, till it is about an inch and a half in diameter. In the healthy virgin the color of this circle resembles the hue of the rose, but begins to change towards the last part of the second month, and gradually assumes a darker shade till it is a sort of yellowish brown color, varying greatly according to the complexion of the individual. But the change in color is not the most essential thing about the areola. About the same time the glandular follicles become more prominent. There are from twelve to twenty of these little spots around the nipple, and they become elevated from one-sixteenth to one-eighth of an inch, rendering the surface of the areola quite uneven. The nipple also partakes in this change, and becomes puffy and more prominent. These changes in the areola and nipple usually begin, as we have said, towards the end of the second month, but sometimes much earlier, and are completed in three or four months.

Now these changes in the areola may not always be well marked, for women of feeble constitutions have been known to pass through the whole period of gestation without any enlargement or noteworthy changes in the breasts; but this must be regarded as a rare exception, and when we discover the puffy and prominent condition of the nipple, and the enlargement and prominent condition of the little follicles around the nipple, even though we cannot so clearly make out the change of color in the parts, it

must be regarded as a positive sign of pregnancy. The very best observers are agreed that this condition can be produced by no other cause.

QUICKENING is a term which designates that period of gestation when the mother becomes sensible, from the movements of the foetus, that she carries a living being in her own body. The ancients held very absurd views upon this subject. They supposed that at the moment of *quickening*, the soul was imparted to the foetus, and that it became a living soul, whereas, before that moment it must have been an animate mass without a soul. As late as the first part of the present century, laws were founded upon this distinction. In England a law was enacted in 1803, making it felony to destroy the foetus before, but death to destroy it, after quickening. But all such notions are now abandoned, and the profession is settled in the opinion that quickening is simply the movements of the foetus in the womb. These movements take place when the foetus is sufficiently developed to produce them.

The first time the motion of the child is felt, the sensation is peculiar, having been compared to the fluttering of a bird within the body of the mother; and it comes so suddenly, that she frequently faints, and sometimes goes off into hysterical convulsions. A day or two may pass before another motion occurs. As pregnancy advances they become more frequent, and increase in strength, till they are fully established, and fully recognized as the movements of the foetus.

Quickening usually takes place about the end of the

fourth month of gestation, but it may occur as early as the third, and may be postponed as late as the sixth month; and the mother may possibly pass the whole period of gestation without once being sensible of the movements of the child. The last, however, is almost too rare to be mentioned, but few such cases being on record.

It should also be borne in mind that women have labored under the phantasm of imagining that they felt the motions of the child when no child was in the womb. In such cases there is apt to be some enlargement of the abdomen from abnormal growths, dropsical effusions, or flatulence. They really think they feel the movements of the child in the womb, and they are sometimes so confirmed in the opinion, that they cannot be convinced to the contrary till time reveals the phantasia. This unreal sensation is usually coupled with a strong desire for children. Queen Mary, of England, is a striking example. So confident was she that she felt the movements of the fœtus in utero, that a public proclamation was made of the anticipated heir apparent, and her people rejoiced, and oblations were offered in celebration of the coming event; but it all turned out to be wind and water!

What, then, is the value of quickening as a sign of pregnancy? We regard it as one of the most positive signs, for it settles all doubt as to the condition of the female, when distinctly recognized. For instance, when a woman of sound mind, who has borne children before, and is familiar with the sensation of quickening, first feels the motion of the child in her womb, all doubts, if any before existed, as

to her true condition, are now removed, and she is certain that she is with child. When, however, a woman is pregnant for the first time, she may not be fully satisfied as to the character of her first sensations; but if they become stronger and stronger, till they are fully and distinctly recognized, she will know, if she be a sensible woman, that she has within her womb a living fœtus. Again: if the physician places his hand upon the abdomen of his patient, and provokes the action of the child, he is no longer in doubt as to the existence of pregnancy; for such sensations as the motions of the child communicate to the hand can be produced by no other condition. Quickening is, therefore, a most valuable sign of pregnancy.

All the evidences of pregnancy now considered, come within the scope of the consciousness and observation of the female herself, and are usually sufficient to enable her to decide the question of pregnancy for herself. But cases of a very obscure and doubtful character will now and then occur, especially in the primiparæ, or first cases, causing the female and her friends great anxiety, and requiring the aid of medical art to decide them with any degree of certainty. In such cases the physician must have recourse to other evidences, which for the most part are hidden from the patient herself, and, for that reason, may be denominated,

HIDDEN SIGNS OF PREGNANCY.—When a medical man is consulted in behalf of such a patient, he should first make a careful inquiry as to the usual, and conscious signs, such as we have already noticed, and endeavor to learn as

much as possible from them. He should next make an external examination of the abdomen, to ascertain if there is any enlargement, and if so, upon what that enlargement depends. Does it depend upon tumors growing within the womb, or within the abdomen upon the outside of the womb, or enlargement of one of the ovaries, or dropsy of the abdomen, or suppression of the menses, or any other abnormal and diseased condition of the parts? or is the enlargement the result of pregnancy? In making this discrimination, the general health of the patient is a matter of the first importance. For in all enlargements depending upon some diseased condition, the general health suffers in a greater or less degree. The form and growth of the enlargement depending upon any diseased causes, differ very materially from that of pregnancy. By having the patient lay upon her back, with her knees drawn up, and her head and shoulders elevated, the general outline of the enlargement can be distinctly felt by the hands, and its form will enable the accoucheur to decide whether it be the result of pregnancy, or other cause.

Again; an enlargement produced by a fibrous tumor or polypus within the womb, will give rise to bleeding, which will be more or less periodical, occurring the most profusely at the menstrual period. If depending upon hydatids, in addition to the discharge of blood there will usually be a periodical discharge of water, and in both cases there will be more or less bearing-down pain. Cancer of the womb has *its* peculiar characteristics, enabling the medical man to form a correct diagnosis. Ovarian tumors or dropsy

begin on one side of the abdomen where the ovary is situated. Growths upon the outside of the womb can usually be moved about under the hand, as they are attached to the organ by a mere pedicle. Now all such tumors are slow and irregular in their growth, but the enlargement of the abdomen from pregnancy is rapid and uniform, having but nine months to complete the whole work.

Ascites, or dropsy of the abdomen, has been mistaken for pregnancy, but a physician cannot well make such a blunder at the present day. He will find that there has been some previous derangement of the health of the patient, as the cause of the dropsical effusion. And *fluctuation* is an infallible symptom of dropsy of the abdomen. The physician lays the palm of his hand upon some part of the abdomen, and by tapping upon any other part with the fingers of the other hand, he will distinctly feel the fluctuations of the water against the abdominal walls, which settles the question as to the dropsy. Ascites may also be distinguished from ovarian dropsy, or other enlargements, by the general diffusion of the water over the abdominal cavity, and by its change of place upon changing the posture of the patient.

Retention of the menses has been mistaken for pregnancy. By retention, we do not mean suppression. In the former case the menstrual fluid is discharged from the mucous lining of the womb, but, instead of escaping externally, it is retained within the organ, which distends it so as to resemble pregnancy. This is the result of some obstruction in the neck of the womb, or an imperforate

hymen entirely closing the external opening of the vagina. In the former case the skillful accoucheur introduces a probang into the womb and overcomes the obstruction; and in the latter case, a slight operation upon the hymen will allow the menstrual fluid to escape, curing the female of her supposed pregnancy.

The accumulation of flatus, and fœcal matter, in the intestines, have led females to suspect themselves pregnant. But this cannot occur except in the most ignorant, stupid, filthy persons, and the only remedies are carminatives and brisk purges repeated twice or thrice if necessary. Cases are also on record of suspected pregnancy from the enlargement of the abdomen produced by the accumulation of flatus in the uterus itself, but such cases are so rare that they hardly deserve notice in a work of this description.

By an examination per vaginum, with the index finger, the physician learns much that is valuable. He notices the changes which the os and cervix of the womb undergo during pregnancy. At first the lips of the os uteri soften, and appear to elongate, and as pregnancy advances the neck begins to shorten and enlarge, and at full term it is entirely lost in the surrounding expansion of the womb. The shortening, however, does not commence till the fifth or sixth month.

Again; by placing the index finger against the anterior and lower part of the womb, with the female in the standing posture, and making a sudden push against it, the fetus will recede from that part of the womb and in a mo-

ment or two fall back, communicating to the finger the rebound sensation, which can be produced by no other condition of the uterus. This is an important sign of pregnancy, called by the French *ballotment*, and by the English *repercussion*. It can usually be felt by the experienced accoucheur, as early as the fourth month. The reader will have no difficulty in understanding how this rebound takes place, if he bear in mind what we have already explained, viz., that the foetus is always surrounded by water in the cavity of the womb.

The pulsations of the foetal heart are another unmistakable sign of pregnancy. They can usually be heard from the fourth to the fifth month, sometimes much earlier; and they increase in force as the pregnancy advances. The accoucheur ascertains, as near as possible, how the foetus is situated in the womb, and then places his ear upon the abdomen of the female near the foetal heart, and listens to its rapid, but faint, pulsations, and when he hears them, which he is usually able to do sooner or later, he knows there is a foetus in the womb; he also knows that the foetus is alive; and if there are twins he can usually determine the fact by listening for the pulsations of the two hearts.

There are a few other insignificant signs of pregnancy, such as the *placental souffle*, or *uterine murmur*; the discoloration of the mucous membrane of the vagina; the *kiesteine* sometimes found in the urine of pregnant women, etc., which we do not think of sufficient consequence to receive further notice in this work.

Now such examinations are often of the utmost importance; for they reveal the true condition of the female; and if it be found that pregnancy really exists, her mind will be relieved of such suspense and harassing doubt as might be injurious both to herself and her child. On the other hand, if the enlargement depends upon some abnormal or diseased condition, which merely simulates pregnancy, the timely revelation of the disease, and the skillful application of the medical and surgical art, will often effect a cure and save the patient from prolonged suffering and an untimely death. Another fact should always be borne in mind by those seeking advice upon such subjects, viz. :— Very few physicians are capable of conducting these examinations and founding an opinion upon the infallible deductions of science. However eminent in the profession, no physician is competent for such a work unless he has given special attention to this department of medical science. Our medical brethren may not thank us for such a revelation, but they know we speak the words of truth; neither do we speak them to their disparagement, for every medical man, and almost every intelligent person, is fully aware that no one man can be skillful in every department of medicine.

CHAPTER VI.

PARTURITION OR LABOR.

Vague thoughts of young married women concerning labor—A description of the female pelvis and the child's head—The movements of the head in passing through the pelvis—How to determine when labor will commence—How to tell when conception takes place—At what periods may a woman conceive?—Signs of approaching labor—Sensations of the female—Subsidence of the womb—How to tell spurious from true labor pains—The show—How the first examination should be made, and its objects—Attention to the bowels, bladder, etc.—Labor divided into three stages—Character of the pains—Rigid os uteri—Rupture of the bag of waters—The descent of the head—The support of the perineum—Cord around the neck—The caul—The separation of the child—Horrible mistakes—Delivery of the after-birth—Bandaging the mother—After pains, lochial discharge, etc.—Proper diet for the mother—Treatment of the child—When should it be put to the breast?—Substitutes for the mother's milk—The bottle, the goat, and the wet-nurse.

WHEN the newly married female finds herself in a delicate situation for the first time, she is the victim of many vague and harassing thoughts concerning her safety and disagreeable condition. Her secret impressions, as we call them, are by no means concealed within her own breast, but are almost constantly vented in the presence of female

friends, adding greatly to the sociabilities and jollities of refined society. Her greatest anxiety has reference to the passage of the child from her body into the world. Though fully assured that thousands of babies are born every day, she cannot understand how a fully grown, lusty, squalling child can find a passage through her delicate organs, the disproportion between them and the size of the child being so great, in her judgment, as to render the thing quite unreasonable. With many fears, therefore, she is obliged to trust nature and the doctors for a safe delivery, and a triumphant lodgment of the baby into her fostering arms.

A young woman, during her first pregnancy, got the idea into her head, that the pubic bones, forming the front part of the pelvis, separated widely to give exit to the child; and, to prepare them for a more ready and easy separation, she was in the habit of daily rubbing olive oil and other oleaginous substances into the parts. Not long since, we stood at the bed-side of a girl whose labor was difficult and protracted. In her moaning she exclaimed with some force of defiance, that she didn't know before, that was the way women had children. And when asked how she supposed they had them, she fixed her eyes upon us, and with apparent sincerity, said she always supposed the doctors cut them open and took the babies out.

These cases may serve as good illustrations of the general ignorance of newly married females, concerning the anatomy and capabilities of their sexual systems. And such ignorance is unavoidable; for the means of instruction is not placed within their reach—the books published upon such

subjects being designed for the physician's library, and far above the comprehension of the general reader; or such insignificant catch-penny works as abound in errors, confuse and perplex the reader, and render distasteful all such studies. A chapter, therefore, upon natural labor finds an appropriate place in this work.

In this chapter we cannot give a minute description of all the diameters of the pelvis and the child's head, and all the unnatural presentations and positions of the child, preternatural, difficult and prolonged labors, etc.; for such description would require a volume as large as the present, and would be of little use to the general reader. But we shall take a case of natural labor and carry it through to its termination, noticing such conditions and processes as may be necessary to a general knowledge of the subject. By the perusal of this chapter it is to be hoped the reader will be made better as well as wiser, for in the natural birth of his creatures the wisdom and design of the Divine Being is mysteriously and wonderfully displayed.

The pelvis, which signifies a basin, so called because it bears a slight resemblance to that vessel, is an irregular bony cavity, containing the urinary and genital organs, and a part of the intestines. It is deeper and stronger in the male than in the female, but broader and more delicate in the female than in the male, being adapted to the passage of the foetus. The first question, therefore, which naturally arises in the mind of the inquirer, is, how can a full grown foetus pass through such an irregular bony cavity. Take a person, who is totally uninformed upon this subject, and

let him look at the dried skeleton, and he would, at once, infer that such a thing would be impossible. But it is one of the most simple mechanical contrivances; and with the pelvis in one hand and the head of a child in the other, we can make this whole matter so plain, that any person of ordinary capacity can fully comprehend it.

The pelvis has two openings, like an old-fashioned basin with the bottom knocked out; not, however, shaped exactly the same. Both apertures are somewhat oval, but not in the same direction; the longest diameter of the superior aperture being from side to side, while the inferior aperture measures the most from before backwards. Now, if you measure a full-sized female pelvis you will find the transverse diameter of the superior aperture about five inches, and the diameter from before backwards, about four inches. The diameters of the inferior apertures are also five and four inches, but the diameter from before backwards, is five inches, the same as the transverse diameter of the superior aperture, and the transverse diameter of the inferior aperture is four inches, the same as the diameter of the superior aperture from before backwards. But the coccyx, which forms the tip end of the posterior part of the pelvis, curves inwards about one inch, making the antero-posterior diameter only four inches, the same as the antero-posterior diameter of the superior aperture; but in labor, this bone is pushed backwards about one inch, making the antero-posterior diameter five inches, as we said before.

The depth of the pelvis in front, is about one inch and a

half, being formed merely by the pubic bone ; but behind, it is about six inches deep, and is formed by the sacrum and coccyx. At the sides it is about four inches deep. The axis of the superior aperture, is downwards and backwards, but the axis of the inferior aperture is directed downwards and forwards. The reader will, therefore, perceive, that the passage through the pelvis is not straight, but crooked. In what manner, therefore, can the child pass through such an irregular canal ?

In a natural labor the head is the part of the foetus which presents at the superior aperture, and, of course, is first born into the world. All other presentations are unnatural and rare exceptions to the general rule, none of them occurring more than once in fifty labors. Now if the head can pass through the pelvis, the body is usually expelled without difficulty ; for the head of the foetus, compared with the other portions of the body, is very large ; and the shoulders and hips, which alone could offer any obstruction, are so soft and compressible that they are readily shaped to the passage through which they are made to pass. It will, therefore, be sufficient for our present purpose, to explain how the head can pass through the pelvis.

The head is somewhat oval, corresponding with the shape of the apertures of the pelvis. It has a number of diameters, as it is measured in different directions ; but a knowledge of two only will be sufficient for our present description. The long diameter, called the occipito-frontal diameter, extends from the forehead to the occiput or back part of the head, and measures about four inches and a

quarter. The transverse diameter is from side to side, at the widest portion of the head, and measures about three inches and a half.

The reader will, therefore, perceive that the diameters of the bony pelvis are a little greater than the diameters of the foetal head; but the muscles and other soft structures within the pelvis, which, during parturition are pressed against the bony walls, considerably reduce the diameters, making the long diameter of the pelvis a little less than the long diameter of the head. It is, therefore, evident, that in passing through the pelvis, the head must undergo certain changes of position, placing its shorter diameters in relation with the longer diameters of the pelvis.

In a natural labor the occiput is most commonly at the left side of the pelvis, a little in front of the line describing the transverse diameter, and the face on the right side directed a little backwards, the longest part of the head not being exactly transverse, but a little oblique. Now as labor progresses, the following movements of the head take place. First, the occiput is pushed down lower than the face, and the chin is made to rest upon the breast. In this position the head has sufficient space to descend into the cavity of the pelvis. This movement is called flexion. In the second place, as the head advances, the occiput slides forwards under the pubes, and the face slides backwards in the hollow of the sacrum, which is called rotation. As the head is born, the occiput emerges from under the pubes; next the face slides over the perineum pressing the child's neck against the pubic bone; and the head,

which before was flexed, is now pushed backwards, which movement is called extension. And when the head is completely born, the face turns towards the right thigh of the mother to straighten the neck, which before was twisted about a quarter of a circle. This is called restitution or external rotation. The causes of all these movements we have no space to explain; but their object is to place the head in the most favorable position as the labor advances, to pass through the pelvis. So much for the mechanism of natural labor.

Before describing labor itself, let us inquire how we can ascertain in any particular case, when labor will commence, and also notice the usual signs of its approach. You will tell me, perhaps, that it will commence in forty weeks or two hundred and eighty days from the time of conception, which we have shown to be the usual duration of pregnancy. But how can we tell when conception is effected? Can a woman tell by her own sensations when she conceives? Some of the ancients thought so; even the great Hippocrates advanced such an idea; but it is now well known that there is no special sensation superadded to that of sexual congress by which a woman can determine, at the time, when conception results from copulation. Besides, some women are as cold and inanimate as a block of marble; still they conceive, and do their part to multiply and replenish the earth.

If quickening were a fixed and invariable period, it would be an easy matter to fix the time of the approaching confinement by adding weeks enough to that period to

make up the forty weeks. If women always quickened at twenty weeks of their pregnancy, we could add twenty weeks more, which would make forty weeks, the time when labor would commence. But the period of quickening is very variable. Some women feel the fluttering of the foetus at four months, others earlier, and others not till the fifth month; and there are still other women who pass their full term of pregnancy without once feeling the motions of the child.

But what connection is there between menstruation and conception? It has been shown by the very best observers—and the same doctrine is supported by the theory of ovulation—that women are most likely to conceive very soon after menstruation; for at that time an ovum has been expelled from the ovary, and is ripe and ready to be fecundated. If, therefore, a woman and her husband are living together, and you commence your calculations a day or two after the last menstruation, you will usually be able to tell pretty nearly when the woman will be confined. But according to the best observations a woman is liable to conceive at any time for two weeks, or thereabouts, after the menstrual flow ceases, and also just before the menstrual period, because in the former case an ovum belonging to the last menstrual period may not be lost till that time; and in the latter case there may be a premature ovum belonging to the next menstruation fit for fecundation. If, therefore, a man is away from his wife, and returns just before her menstrual period, and she passes that period without menstruating, you are, of course, to

make your calculations from that time. If he return a few days only after she menstruates, she will, most likely, conceive at the first connection; but if the period be later and not beyond two weeks, she may conceive at the first connection or not till just before the next period; and it is possible that a woman may conceive at any time between her menstrual periods. In such a case there would, of course, be more or less doubt as to the time that labor would commence. In all extreme cases, or those which vary more or less from the usual duration of pregnancy, there is no means of telling, with any degree of certainty, when labor will commence, except by the signs which immediately precede it.

In all ordinary cases, therefore, where the parties live together constantly, and the woman is menstruating and in a condition to conceive and bear children, you will be able to tell when she will be confined, by taking the last menstrual period as your starting point. In other cases, including nursing women who conceive before the menses return, you will be more or less befogged and in doubt as to the time of parturition, and your judgment must be formed from the symptoms and signs of pregnancy as they appear at different stages of the gestation.

Again, there are certain signs of approaching labor, which patients, as well as physicians, should know something about. For a number of days, and sometimes for two or three weeks before labor actually commences, the patient will occasionally complain of uneasy sensations about the region of the womb, and if it be her first preg-

nancy she may think she is going into labor, and send for the doctor; or she may regard these sensations as evidences of approaching danger, and desire to consult her physician, who, if qualified for the responsibilities of his profession, will be prepared to remove such apprehensions, and to administer to the mind such comfort as the nature of the case admits. These sensations are really useful in preparing the womb for the more arduous task it has to perform; and it is supposed by some that the more active these preliminary sensations the easier and safer will be the approaching labor. They arise from the gentle contractions of the womb, which prepare the os uteri to undergo the necessary dilatation for the passage of the foetus into the world.

Some days, or a week or two, before the commencement of labor a remarkable change takes place in the position of the womb. It consists in the subsidence of the gravid womb into the abdomen, so that its fundus, or top, is no higher up than at the eighth month. The os uteri, of course, sinks lower in the pelvis; the abdomen is less prominent than before, and the patient feels lighter, breathes easier, and is more cheerful. This change is sometimes gradual, at other times quite sudden. It may take place in the night, and when the female awakes in the morning she is greatly astonished to find that her *stomach*, in a measure, has disappeared, and that her sensations have undergone a very agreeable change. This is sometimes called the *righting* of the womb, as it is placed in a better position for the efforts of labor. But there are temporary

inconveniences attending this change which are quite prominent signs of approaching labor.

The lower part of the womb thus falling down, makes more or less pressure upon the viscera within the pelvis. The bladder is most liable to pressure from this cause and irritation of that organ, and a frequent or constant desire to pass water is the result. This desire will sometimes be so constant and urgent that it will amount to absolute suffering; and sometimes the pressure upon the neck of the bladder will prevent micturition, and the doctor will be obliged to draw off the water. The rectum or lower bowel may be unduly pressed upon, and there may be a distressing tenesmus, a tormenting desire to evacuate the bowels though they are empty, such as exists in dysentery; and the physician may be sent for, who should explain the cause of the trouble to his patient, and assure her that, in due time, all will be right. It is well also to give a little anodyne medicine to allay these distressing sensations. But if the case is mistaken for dysentery, and the patient is subjected to heroic treatment for that disease, much useless trouble, if not positive injury, will be the consequence.

There are some other premonitory symptoms of labor, caused by the pressure of the womb upon the nerves and other structures within the pelvis, which, in passing, we will just mention. Hemorrhoidal tumors or piles, may now become very distressing; the dropsy of the lower limbs may be considerably increased at this particular time; various neuralgic pains, especially about the hips and loins,

may now remind the patient that this world is not a place of unalloyed happiness ; numbness in the lower limbs, amounting in some cases to complete paralysis, will greatly alarm the patient and call loudly for the aid and comfort of the physician.

Among other signs of approaching labor, we may mention the relaxed and soft condition of the vagina, and all the external organs, with an increased moisture of the parts, and a discharge of thick mucus from the vagina. The os uteri is also softer, and though the labor pains have not yet commenced, it will be found a little dilated, especially in women who have borne children.

Now let us suppose the physician is summoned to attend a lady in her confinement. When he receives such a summons, he takes it for granted that labor has actually commenced, and repairs to the residence of his patient with the least possible delay. In a majority of cases he will find his patient in labor ; but in other cases labor will not have commenced, and if he is not fully awake to his business he will lounge around for a considerable time before he finds out the mistake ; and when he goes away to wait a few days longer, perhaps, for labor to commence, he will not be likely to carry with him the confidence of the patient and her friends. They will think he ought to have known, at once, that the woman was not in labor, and not hang around so long, and make fools of everybody. The physician should, therefore, proceed without any unnecessary delay, to find out the true condition of his patient.

There are certain pains, entirely independent of the

uterus and uterine contractions, which sometimes simulate labor pains, and deceive both the patient and the doctor. These pains are called by authors *spurious* or *false* labor pains, to distinguish them from the true pains. They do not result from the contractions of the womb, like the preliminary or preparatory sensations already described. Now when the physician is called to attend a labor, it is important that he should be able to distinguish between these spurious and true labor pains. The spurious differ from the true pains, both in their character and location.

1. The spurious pains are very irregular in their return and duration. Sometimes they are almost continuous, and very distressing; they are continually shifting from the back to the sides and some part of the abdomen. But true labor pains, at the commencement, are very weak, of short duration, and long intervals; and they come and go with regularity, and increase in frequency and strength as the labor progresses; and they commence in the lower part of the loins and extend to the abdomen and thighs. If the female is sitting in her chair with her work in her hands, and is taken with one of these gentle labor pains, she quietly lays down her work, takes hold of the chair with her hands, turns her head a little one side, screws her mouth a little out of shape, and with a suppressed moan, not always audible, comes out of it, and resumes her work, as if nothing had happened. No such regularity is observed in those jumping, shooting, irregular spurious pains.

2. We have no trouble in telling the character of the pains if we make a proper examination of the womb. Let

the physician place his hand snugly upon the abdomen of the patient during a pain, and if it be a true labor pain, he will feel the womb tightening and hardening under his hand; and when the pain passes off the hardened uterus will become relaxed. But all doubt may be removed by an examination per vaginam. If the os uteri is found somewhat dilated, and the membranes slightly protruded during a pain, presenting to the finger a slight resistance, but receding somewhat and becoming flaccid when the pain passes off, the woman is in labor.

As another sign of commencing labor the female will sometimes be taken with rigors, or shivering fits, and, perhaps, vomiting, depending upon the contractions of the womb and the dilatation of the os uteri. These symptoms may alarm the patient, but they are usually quite harmless; indeed, they are looked upon by some medical men as highly favorable, insuring a more ready dilatation of the os uteri, and a more safe and speedy birth of the child.

Again; When labor commences, or a short time before, as we have already intimated, there will be a discharge from the vagina of a thick, glairy mucous substance, usually streaked with blood. This is derived from the follicles of the vagina and neck of the womb. It is often very profuse, and it is furnished by nature to lubricate the parts, thereby facilitating their distension. This discharge is known among women as the *show*. But there will occasionally be an absence of it, and the labor is then called a *dry labor*.

Let us now suppose our patient is in labor, and the doctor is present to render his services, and receive his fee. His duties, even in a case of natural labor are many, and, if skillfully performed, will greatly contribute to the comfort and safety of his patient, insuring her a good *getting up*, and subsequent freedom from various female disorders which so often wither and blast the fairest of Eve's daughters. The first duty of the medical attendant, after a little chat with the nurse and patient about the weather or anything else that may be uppermost, is to make arrangements for an examination *per vaginam*. We have already spoken of such an examination to ascertain the character of the pains, and decide the question whether the woman be really in labor; but there are many other things to be learned by this first examination, which the intelligent physician is not likely to overlook. It is better for the doctor to speak to the nurse or the mother, and tell her that it is necessary to make an examination to see if everything is right. Because this examination is made when a pain is upon the patient, it is sometimes called *taking a pain*, and the nurse may tell the patient that the doctor wants to take a pain. For this and all subsequent examinations *per-vaginam*, the patient should be placed upon her left side with her thighs drawn up, or upon her back, according to the choice of the accoucheur. Our own choice is the back posture, as being the easiest for the patient, and the least liable to suggestions of vulgarity. Nothing appears to us more vulgar than the side posture with the nates directed towards the doctor. Having de-

cided upon the posture, the doctor should prepare his index finger for such an examination; the nail should be cut short and scraped smooth, and if the finger should be adorned with a large, rough ring, it should be removed; for a sharp nail, and a large diamond ring, might alike be objectionable to the patient's vagina. The finger should be lubricated with a little lard, or olive oil, and introduced during a pain. Place the end of the finger within the mouth of the womb, and keep it there till the pain passes off, in order to make a full and careful examination of the condition of the parts. The mouth of the womb will sometimes be directed much further backwards than the young practitioner would expect, and he might first touch the anterior and lower part of the organ. Let him then slide his finger backwards till he places it within the os. The thumb and all the fingers, except the one to be used for the examination, must be snugly closed, and considerable pressure must be made upon the perineum to extend the finger far enough up to make a good survey of the parts. Some practitioners prefer the middle finger, and others use both the index and middle fingers. If, in any case, the doctor should be unable to reach the womb with his patient in the recumbent posture, she should stand up for the examination, as gravitation will bring the womb a little lower down in the pelvis. With the legs somewhat distended, and the patient slightly stooping, she may be requested, if necessary, to bear down, which will bring the womb still lower in the pelvis. But there will seldom be occasion for such a posture. We don't think a case can be

found that we could not fully explore in the recumbent posture; but we are blessed with a finger not at all contracted in length.

There are several things which the physician should endeavor to learn by this first examination. He finds, we will suppose, that the patient is actually in labor; and now he wishes to know the condition of the pelvis, and soft parts, through which the child must pass. Is the pelvis natural? or is it deformed? Is it of the usual capacity? or is it small, and contracted in its dimensions? If deformed or small, is it sufficiently so to interfere seriously with the safety of the mother and the birth of the child, or merely to render the labor tedious and protracted? Is the womb in its natural position? Are the mouth of the womb, the vagina, and the external parts, soft, dilatable, and well lubricated with the natural secretions, or are they rigid and dry? At this examination the physician should also ascertain, if possible, what part of the child presents; and if he finds the head at the superior aperture he should endeavor to ascertain its exact position to the pelvis. All these things will enable him to form a judgment as to the character of the labor, and if there should be anything unnatural, or any obstruction to a good delivery he will be placed fully upon his guard, and enabled, at the most suitable time, to render the necessary assistance.

Having made this examination, the physician should next inquire into the condition of the bladder and bowels. Perhaps he found the bladder distended with urine, and the lower bowel with fecal matter, when he made the ex-

amination; if so, the patient should be requested to pass her water; and if she is unable to do so, it must be drawn off with the catheter. An enema should also be given to relieve the bowels; or, if the patient has not had a passage for a day or more, and the labor is not far advanced, a prompt cathartic may be administered. Some attention should be paid to the room, and the bed of the parturient woman. The room should be kept quiet, clean and airy, and it is entirely out of place for a large number of persons to be present, especially those who wear melancholy visages, and are accustomed to telling frightful stories of horrible cases of labor that they have witnessed; for though their intentions may be good, and their presence may be endured, they are a great annoyance to the patient. Everything should be cheerful, but not boisterous and noisy. Of course, the contents of the chamber are not allowed to remain in the room except by the most vulgar and filthy people. If the patient can have some kind of cot or bed, to be delivered upon, and another clean and fresh, to be laid upon after the labor is completed, it will contribute to her cleanliness and comfort. But if that be inconvenient, an oil-cloth should be placed upon the mattress, and a quilt spread over it; or a folded quilt should be placed under her hips to prevent the discharges from wetting and soiling the bed that she must afterwards lay upon.

And now let me admonish you not to fall into the error of supposing that the patient must not eat anything till the labor is completed. If she is hungry, let her eat; but her diet should be bland, and liquid for the most part, not

solid and stimulating, for there is so much going on in the womb, that there might not be sufficient action in the stomach to digest solid substances, and they might remain to act as irritants, and produce the worst consequences. No spirituous liquors should be given unless specially indicated and ordered by the physician. We have known the worst consequences to follow the use of such articles during labor. The patient may take tea, gruel, light broth, cracker toast, etc., and these articles should be nicely prepared, palatable and refreshing. Too much attention cannot be given to these things. A great burden is laid upon woman, and too much cannot be done, in this her time of trial, to assuage her sorrows, and comfort and cheer her heart.

For the purpose of simplifying as much as possible, the description of natural labor, we will divide the whole process into three stages, viz. ; the first stage which ends when the bag of waters rupture and the os uteri is sufficiently dilated to allow the passage of the child's head ; the second stage includes the descent and expulsion of the child into the world ; and the third stage consists in the delivery of the after-birth.

During the first stage, it is entirely unnecessary for the patient to keep her bed unless she feels so inclined. It is better that she be up a part of the time, and lounge upon the sofa, sit in an easy chair, walk about the room or busy herself in any way she pleases. But when the bag of waters rupture and the os uteri is sufficiently dilated to allow the descent of the child, she should take her bed,

and keep it till she is delivered. She need not, however, be confined to one posture; she can lay upon her side, or back, or change from one posture to another, as may contribute to her comfort. The back is usually the easiest posture as it affords support to the spine. We always prefer to deliver a woman upon her back.

The number of examinations necessary during the first stage will depend altogether upon the character of the labor; usually two or three will be sufficient. If the parts were found well lubricated with the natural secretions at the first examination, it will be entirely unnecessary to have recourse to the lard pot or oil bottle afterwards. One rule every physician should observe, viz. ; never make any unnecessary examinations, as they are always annoying to the patient. When, however, the waters escape, an examination should always be made to ascertain the progress of the labor, and the exact position of the head.

The character of the pains undergo great changes during the progress of the labor. At first they are slight, short and infrequent; but as the labor progresses they are more severe, more frequent, and of longer duration. At first we have the grinding or cutting pains as they are called. If the patient takes hold of your hand, she squeezes or twists it, but does not pull forcibly upon it; she turns her head one side, and twists her mouth out of shape, and gives vent to a slight moaning or grumbling noise. But when the os uteri is sufficiently dilated to allow the head to make a decided pressure upon it, these pains assume a different character. The patient now bears down. When these

latter pains are fully developed, she grasps anything within her reach, endeavors to fix her feet against some resisting object, holds her breath and pulls with all her might. Her moaning is very slight, as she is obliged to hold her breath, but it passes off when she takes another breath, with a sort of explosive grunt. These are the *forcing* pains, which continue and increase in frequency and length, till the child is brought into the world. Now this difference in the pains very often enables the physician to judge of the progress of the labor, as soon as he steps across the threshold of the lying-in chamber, and it inculcates a lesson, which should never be disregarded. It is this: while the pains are *grinding*, the patient should never be urged to bear down, as it could produce no good, but might do much mischief by exhausting her strength. On the contrary, if she seem to think she ought to bear down, she should be cautioned against doing so, till the pains assume the forcing character, when she will bear down whether you urge her to or not. At this stage of the labor it is good practice to twist up a sheet and tie one end to the foot-post, and a loop in the other end for the patient to take in her hands; and also to bring her down in the bed and let her feet rest against the foot-board, or afford some other support for the feet. Thus fixed, she has an excellent opportunity to expend all her bearing-down efforts to the best advantage.

Let me here admonish the physician in his examinations during the first stage of labor, not to rupture the membranous sack. These membranes are sometimes very thin,

and non-resisting, and any scratching with the finger-nail, or rough pressure of the finger, might cause their rupture and the premature escape of the waters. This is always an unfortunate circumstance, as it renders the labor more protracted and tedious. As the bag of waters come down into the os, it keeps up an equitable and uniform pressure which aids essentially in the dilatation of the parts; hence their usefulness. There are cases, however, where these membranes are so tough that they do not rupture spontaneously when they can be of no further service. In such a case the physician should do the work that nature fails to do.

Sometimes the parts will be very dry, the os uteri rigid, and its dilatation slow and irksome, rendering the labor painful and protracted. This calls for the skillful assistance of the medical attendant, and various means may be employed to overcome the rigidity. If the parts are dry they should be well lubricated with fresh lard or olive oil. The ointment of Belladonna may be occasionally rubbed upon the mouth of the womb. Very great advantage may be derived from the steam of hot water. Place a broad vessel of hot water under a chair with an open bottom, on which the patient must be seated. Let the water be as hot as it can be comfortably borne; and it will often act like magic. Advantage may be derived from the use of various remedies, which have a relaxing influence upon the system. The wine of Ipecac, or tartar emetic, carried to the extent of producing a little nausea, but not vomiting, will often act like a charm. Sulphuric ether, when

not contra-indicated by disease of the respiratory organs, is a most efficient remedy. It should be poured upon a sponge or napkin, and held to the patient's mouth till it produces a gently soothing and lulling effect; but it should not be carried to the extent of producing absolute insensibility. If the patient be plethoric, and has a rigid muscle, the most suitable and efficient remedy is the lancet. It should not be used heedlessly, but when plainly indicated, if the physician refuses to employ it he does his patient great injustice, and endangers her health or even life. It is marvellous how the os uteri will soften and dilate under the influence of blood-letting.

During the second stage of labor the patient will often complain bitterly of a pain in the back. She may tell the doctor that her poor back will break, and confidently look to him for relief. To this complaint the doctor should not turn a deaf ear, he should show his sympathy by assuring her that, in due time, all will be right; and by doing all in his power for her comfort. Let him place his hand under her back and during a pain make some degree of pressure, or let him place a napkin under her back, and have an assistant at each end, and during a pain make pressure by raising the ends of the napkin. In this way, or in any other that may suggest itself, the doctor will show his sympathy and administer to the comfort and relief of his patient.

As the head of the child advances it makes pressure upon the rectum, and not unfrequently produces a strong tenesmic sensation, as if the bowels needed evacuating;

and the patient may insist upon getting up for that purpose; but in no case should she be allowed to do so, as the child might be suddenly delivered at that unfortunate moment. If the patient is made to understand the cause of this distressing sensation, and assured that her bowels are all right, she will summon patience, and endure the distress with comparative ease.

As the head continues to descend, it makes pressure upon the perineum, forcing it out into a rounded tumor as large as a man's two hands spread out with the fingers interlocked. Were it not for the perineum, the head would continue to descend downwards and backwards in close contact with the coccyx; and from the force of this direction there is always more or less danger of lacerating the perineum. It should, therefore, be supported by the hand of the physician, and never trusted to the nurse, or an assistant. Let him take a napkin in the palm of his hand, and placing it upon the perineum below the inferior commissure of the orifice of the vagina, make moderate pressure forwards during a pain. When the pain is off, the head recedes somewhat and no support is necessary; but when the pain returns it should again be firmly supported, for it is by a succession of pains that the head is usually forced through the external parts. By such support, we assist the perineum in pushing the head forwards, at the time that the contractions of the uterus are forcing it downwards; and if the pressure be properly applied, the liability of its laceration is greatly diminished. The radial or upper part of the hand, should be placed across the thin

edge of the perineum, as that is the part most liable to lacerate first. But at length when the pain comes which pushes the head into the world, the greatest support is required; and as the head slides over the thin edge of the perineum, the female gives utterance to a short, sharp shriek, which alarms no one but novices. The pressure of the head upon the perineum when it is greatly distended, and its passage over the perineum, are the most painful part of the labor; and if the physician be apt and clever, he can greatly console his patient by kind and positive assurances that her sufferings will soon be over.

The head of the child is now born into the world, and the cord will sometimes be found drawn around the neck. We have seen three turns of it so closely drawn around the neck that the child must have died from suffocation, had it not been promptly removed. This, therefore, is the very first thing that should engage the attention of the physician when the head emerges from the mother's parts. Let him at once, examine the neck, and if he find the cord around it, draw it down a little, and, passing his finger beneath, slip it over the back part of the head. This can usually be done with the greatest ease; if, however, a case should occur where the cord is so tight that this cannot be done, it should be cut with the scissors and the delivery effected with the least possible delay.

Sometimes a piece of membrane torn from the mass of membranes by the descent of the head through the os uteri and vagina, will be found upon the face or head of the child. This is called the caul. Anciently, it was supposed

that a person born with a caul, or one who carried a piece of it about his person, would be preserved from violent death by fire, water, etc. ; and would have presentiments of important events in the future, such as the death of friends, marriages of particular persons, important changes in State, etc. Hence it was considered of great value, and was carefully preserved and dried, and sold at a great price. The same superstition exists among some people at the present time.

The head being born, a thoughtless and uneducated midwife, having something to pull upon, would naturally proceed to extract the child as soon as possible. But this is not good practice. Unless something should indicate the necessity for interference, the termination of the labor should be left to nature. Let the medical attendant examine the neck as we have stated ; let him see that there are no pieces of membranes, or thick mucus about the mouth or nose, to obstruct the passage of the air to the lungs—for the child will usually gasp for breath, and show signs of life as soon as the head is born—and in a few moments the uterus will again contract, and the shoulders, and the hips, and the entire child will be pushed into the world, and complete what we have denominated the second stage of the labor. And now commences another series of duties.

Let the child be placed with its back towards the mother, to prevent any discharges from getting into its mouth, and immediately place the hand upon the mother's abdomen to see if there is twins. If so, the belly remains hard and

nearly as large as before the birth of the first child ; if not, there will be a great sinking down and flatness of the belly, and the uterus will be felt to contract under the hand. To favor contraction of the womb and thereby prevent flooding, gentle pressure should be continued for some time. The nurse may be directed to continue the pressure, when the physician's attention is given to the child. If the womb contracts well, it will be felt just above the pubes, as hard and about as large as the child's head.

The next thing to be attended to is the separation of the child from the mother. As soon as it breathes well, and cries lustily, and the pulsation in the cord ceases, its independent circulation is fully established. Both, or either, of these signs, indicate clearly that the circulation no longer goes on from the heart to the placenta, but from the heart to the lungs ; and the child may now be cut loose as follows :—Take a piece of narrow tape, or a string made of nine or ten strands of thread, and tie the cord with a firm square knot about two inches from the navel, and cut it off with a pair of scissors, a quarter of an inch from the knot. It is the common practice to place two ligatures upon the cord, and cut between them, but this is entirely unnecessary, as the blood which passes from the cord, does not come from the mother but merely from the placenta ; and, indeed, it is good practice to allow the placenta to empty itself, as its bulk is somewhat reduced thereby, and its abstraction more easily effected. In case of twins, however, two ligatures should always be employed, as the two placentaë might inosculate, or be connected in such a man-

ner, that the bleeding from the cord of the first child, might deprive the second of its life. In doing this little job the physician should *see* what he is about, and this he can do without any exposure of the mother. It has been the custom to tie and cut the cord under the cover of the clothes, and many accidents have resulted from such blind practice. The cord has been frequently cut off between the child and the ligature, close up to the navel, not leaving enough to tie again, subjecting the doctor to great mortification and censure, and the child to the annoyance and danger of hemorrhage. There is more than one case on record where a finger has been mistaken for the cord, and clipped off with the scissors; and just think of the horror upon horrors if the doctor, instead of clipping off the cord, should get hold of the penis and clip off that. Even such cases are on record. Never, therefore, do this work in the dark.

The child being separated from the mother the doctor must be careful that the dirty little thing does not slip out of his hands and go bang upon the floor, as such an accident would never be overlooked by the patient nor her friends. He should at once place it in a warm flannel or blanket, made ready for the purpose, and then hand it to the nurse, or lay it away in some safe place till she is ready to perform the ablution and dressing. Don't place the child in a chair convenient for people to sit upon as they come into the room, for some venerable matron of corpulent figure and broad proportions might seat herself in the ~~same~~ chair, not noticing the priority claim of the little

stranger, and give it a most pressing reception, not at all consistent with its age and development. Such accidents have happened, and it is the duty of the accoucheur to guard against their liability.

Sometimes the child shows no signs of life when it is born into the world, and it may be difficult to ascertain whether it be really dead or not. The hand should be placed over the region of the heart, and if that organ is found to beat, however faintly; or, if no action is observed except a sort of tremulous sensation communicated to the hand, there is hope of saving the child, and there should be no delay in the use of the most vigorous means for that purpose. Sometimes the breath of life will be brought into it by a few slaps upon the buttocks, or by plunging it into a warm bath, or by frictions upon the surface, or by sprinkling cold water upon it. But if all such means fail, artificial respiration must be resorted to. This may be done thus: compress the nostrils between the thumb and finger, then place your mouth upon that of the child, or place a tube of some sort in the child's mouth, or, what is better, a small pair of bellows, and blow some air into the lungs, and immediately compress the chest to force it out. Let these efforts be made in quick succession, and if the child be not entirely dead they will usually succeed in its resuscitation. A small pair of bellows is to be preferred, if at hand, as you force the pure air into the lungs of the child instead of the air which has been breathed. By placing the hands upon the chest, and imitating the natural movements of respiration, its capacity will be successively

enlarged and contracted, and a small amount of air will be drawn into the lungs and expelled from them without the disagreeable and troublesome business of blowing into the child's mouth. This means will often succeed in its resuscitation. In our own hands it has been most successful.

Now let us return to the mother, and consider the third stage of labor, or the delivery of the after-birth. After the birth of the child she will have a little rest, and feel composed and happy, in view of her safe delivery; and if it should be her first confinement she may suppose the labor is all over, and her troubles and dangers at an end. But in fifteen or twenty minutes she is aroused by another pain, and supposes, perhaps, that there is another child in her womb. But this is an effort of the womb to detach and expel the placenta. Usually a few pains are sufficient for this purpose. As the womb contracts and diminishes its bulk the attachment of the after-birth is peeled off; and it may be forced out at once or require your assistance for its removal. The finger may now be introduced along the cord to the placenta, which may be entirely detached from the womb and laying over its mouth. Now hook the finger over its edge and draw it down, thus unbuttoning the placenta, as Professor Meigs would say. In bringing away the placenta it should always be rotated a number of times upon itself, thus twisting the membranes into a sort of cord, which greatly increases their strength, diminishes their volume, and enables you to bring them away without tearing them or leaving any portion of them behind, a result-always to be avoided if possible. In all cases where

the placenta is not entirely detached from the womb no great traction should be made upon the cord, as it might produce inversion of the fundus of the womb. Cases are on record where the womb has been completely inverted, and brought down out of the body by such barbarous practice. But when the detachment of the placenta is delayed, owing to the feeble contractions of the womb, much can be done to excite the action of that organ. Frictions over the region of the womb; cold water dashed upon the abdomen, a piece of ice applied to the sacrum; rubbing the neck of the womb with the finger, etc., are some of the ordinary means usually resorted to with success. But cases will now and then arise where all such means will prove unavailing. For the morbid adhesions of the placenta are sometimes so strong that the contractions of the womb are insufficient to break them up; and sometimes after the detachment from the surface has been effected, it will be retained in the womb in consequence of the spasmodic contraction of its neck or such irregular action of the organ, as forms what is denominated the hour-glass contraction. In such cases the physician must proceed to remove it, by a careful, persevering, energetic use of the means pointed out in our full text works upon obstetrics. In all cases of flooding, the placenta should be delivered as speedily as possible, and the most energetic means employed to insure the contractions of the womb; and the doctor must not leave his patient for two or three hours afterwards, as the womb might suddenly relax, and the flooding reappear and endanger the life of the patient.

As soon as the after-birth is delivered, the bandage should be applied. And here let us inquire what benefits are to be secured by the bandage. As it is usually made and applied it can produce no good effects except, perhaps, to afford the patient a sense of support. Bedford says, "The object of applying the bandage at all, is simply to afford gentle and equitable support to the abdominal parietes, which have been in a state of great distension; and now that the child has left the uterus they are, on the contrary, in a remarkably relaxed condition." This is the only advantage of the bandage according to that great bombast, and most of our text-books are equally at fault, and the result of such teaching is, that most physicians are exceedingly careless about the bandage, and some of them omit it altogether. But our own experience and our knowledge of the success of those physicians who give proper attention to this matter satisfy us that in addition to the sense of support which it gives the patient, the following advantages may be secured where it is properly made and applied:

1. By securing the efficient contractions of the abdominal parietes the patient has a more symmetrical form after she gets up than she otherwise would have. The bulging and ill-formed belly so often seen in parturient women is usually prevented by proper bandaging after delivery.

2. By securing the efficient contractions of the uterus, the patient is less likely to be troubled with various uterine disorders, such as falling of the womb, flooding, leucorrhœa, etc.

3. Statistics show that patients who receive such attention are less liable to that terrible disease known as puerperal or child-bed fever, or puerperal peritonitis.

The straight bandage should never be used, as it is apt to slip from its place, and cannot be equably applied. The physician should inquire in season about the bandage, and if he does not find a suitable one already prepared he should call for a piece of linen or muslin about fifteen inches wide, and long enough to lap well around the body. On one side he should cut into it some six or eight inches in two places about a foot and a half apart, and have triangular pieces sewed into the rent to enlarge it for the hips. On the other side he should cut out two pieces and have the rent sewed up, to make it smaller for the body above the hips. The whole of this would not occupy more than ten or fifteen minutes; and it should be done with courtesy, and not with an air of reproach because a suitable bandage is not already prepared. This simple contrivance, so quickly done, will answer all practical purposes; but when the patient understands how to make it she will usually have a much nicer one prepared beforehand. In applying the bandage, the patient should make no effort to assist herself, and should be disturbed as little as possible. Her head and shoulders should be raised for no purpose whatever; but the bandage should be slipped under the back, and smoothly adjusted to the form; then a compress, consisting of one or two folded towels, should be placed over the region of the contracted womb, and the ends of the bandage smoothly, but firmly, lapped

over it, and secured with pins. Two or three pins are not sufficient, but some half-dozen should be used, and as the parts become contracted and smaller it should from time to time be drawn more closely. Of course, there is such a thing as applying too much force, but the physician must exercise his own judgment in the matter.

The bandage being applied, place a napkin under the vulva to receive the discharges; and now if the patient be much exhausted let her remain an hour or two before changing, or in any way disturbing her. During this time she may go to sleep, and get refreshed, and then if she is to lay upon another bed she should be removed by two persons, being instructed not to make the least effort herself, and being kept in the horizontal posture every moment of her time. Her head and shoulders should not be raised for any purpose whatever. These directions are especially indicated, if the labor had been protracted, or there had been much loss of blood, or the patient had become exhausted. If she is to lay upon the same bed, everything that is soiled or damp should be removed, clean sheets should be placed upon the bed, and everything about the bed and the patient should be fresh and clean, and everything that could viciate the air should be removed from the room. The room should be well ventilated, great caution being used not to allow a cold draught of air to come upon the patient. It should also be a little darkened, and kept perfectly quiet, all company being avoided till the patient gets some rest.

But now let us go back and attend to the baby. The

first attention it needs is a thorough washing. For this purpose the nurse should provide herself with a vessel of warm water, a little nice soap, a little olive oil, and a soft, fine sponge. In order to remove the unctuous material covering the surface of the child, every part should be lubricated with the oil before using the soap and water. It should be well rubbed upon the surface with the palm of the hand, and then the soap and water should be freely applied by means of the sponge, great care being used not to get the soap into the child's eyes, as such an accident might produce a most disgusting, and troublesome disease, called purulent ophthalmia. Infants very often have sore eyes from this cause. The ablution being thoroughly performed, the child should be dried, not by rubbing, but with a warm, soft flannel, gently pressed upon every part of its body.

In the next place the navel should be dressed. This is a very small job. Take a piece of muslin or linen about four inches square; fold it both ways, making four thicknesses, then clip off the folded corner; and when unfolded there will be a hole in the middle, through which the cord must be passed and turned upwards. Now turn the lower part of the linen upwards over the cord, thus placing it between the folds of linen. Then the belly-band must be applied, which will keep the dressing in its place. This should always be sewed on, as pins are liable to get loose, and prick, and torment the little stranger, who, as yet, has done nothing to merit such severe treatment. The pricking may also bring on convulsions, and fatal consequences

might ensue. Exposing these little innocents to such torments is a most barbarous practice, deserving the severest censure. Consider your own feelings. If the point of a pin merely rubs against your flesh, how anxious are you to have it removed! The child is now to be dressed, and if the mother is awake it should be placed by her side, at once, as it will be a comfort and inspiration to her heart to gaze upon the innocent object of her suffering.

Soon after the delivery of the placenta, the patient will usually complain of more or less pain, somewhat resembling labor pains. These pains are known as the after-pains. They are produced by an effort of the womb to return to its normal condition, and to expel its fluid contents, and should not be looked upon as a diseased condition of the organ. When these pains become severe, however, a little gentle anodyne medicine may be employed to break their intensity. A little of the syrup of poppies with a few drops of the solution of morphia, a few drops of laudanum in a little camphor water and simple syrup, Dover's powder, elixir paregoric, and Hoffman's anodyne liquor, are among the simple remedies which may be employed for this purpose. They should be given in small doses. If there be any irritability of the stomach, anodyne enemæ should be preferred. Let the attention of the physician be especially directed to this matter before he leaves his patient. Let him also strictly enjoin upon the nurse not to allow the patient to rise from her bed to evacuate her bowels, or bladder; and not to raise her head and shoulders for any purpose whatever till his next visit. The bed-pan must

be used, and the food and drink of the patient must be taken in a recumbent posture, till the physician deems it prudent for her to be raised up. A disregard of these directions have often been followed by the most distressing and even fatal consequences. Let the physician also give the nurse very particular directions as to any appearance of flooding, that he may, at once, be summoned to the scene of danger.

The diet of the patient, for two or three days, should consist chiefly, of liquid and farinaceous substances, such as tea of moderate strength; gruels made of arrow-root, tapioca or flour; toast nicely prepared from crackers or stale bread; chicken broth made palatable, but not too highly seasoned; an occasional soft boiled egg, etc. If everything goes well she can, in a few days, commence with the lighter meats, and gradually resume her ordinary diet of meats, vegetables, etc.

The *lochial* discharge should not be wholly overlooked by the medical attendant. This usually continues a number of days, and then ceases; but sometimes it will persist for weeks. At first, it is bloody; after a day or two it presents a greenish hue, and afterwards becomes whitish, and finally disappears altogether. It may be too scanty, or it may be too profuse. In the former case, if the patient be plethoric, or of a nervous susceptibility, it may produce a great deal of disturbance, such as fever, headache, jactitation, and even convulsions; and an effort should be made to increase the discharge by warm emollient applications to the vulva. But if no constitutional

disturbance arises, no treatment will be necessary. When it is so profuse as to prostrate the patient, and lay the foundation of poor health in after life, it may be checked by such treatment as insure the firmer contractions of the womb.

Upon his first visit after delivery, which should always be made in twelve or fourteen hours, the physician may find his patient's bladder distended without her ability to pass one drop of water; or he may find that very little urine has been secreted, and that the bladder is nearly empty notwithstanding no urine has been passed. In the former case, the physician must draw off the water with the catheter according to the directions laid down in our text books. There should be no exposure of the patient. In the latter case, no interference may be necessary, or a little diuretic medicine may be given, according to the judgment of the physician. The bowels may also need some attention. In short, the physician should have his wits about him at this visit, and make all necessary inquiries that might have a bearing upon the health and comfort of the mother and child.

When should the child be put to the breast? This is a mooted question, but there are no just grounds for any difference of opinion among physicians. Our practice is to have the child put to the breast, as soon as the mother has got a little rest, and has somewhat recovered from the fatigue of the labor, say in a few hours. The child should be encouraged to take the nipple at this early period, even if there should be no milk in the breast, as the following

objects are secured by it:—1. The action of the child's mouth upon the nipple invites the milk to the breasts. 2. It insures the firmer contractions of the womb, such is the sympathy between that organ and the breasts.

In the intestines of every new born infant there is a black viscid material called the meconium, which needs purging out, and the physic which nature has provided for this purpose, is contained in the first milk of the mother. This is called the colostrum. It is a prompt effectual purge suited to the constitution of the child, and thoroughly removes the meconium from its intestines. If the nipple should be so flat or sunken that the child cannot take it into its mouth, it can be brought out and elongated by the action of a breast pump; or what, perhaps, is best, take a pint bottle and fill it with hot water; then pour out the water and immediately place its mouth over the nipple, and as the air within cools, a partial vacuum is formed, and the suction produced is quite sufficient to draw out the nipple. Let the bottle then be removed, and the child applied to the breast. The physician may find that the child is unable to take the nipple on account of a malformation of the frenum of the tongue. This consists in the frenum growing too near the apex of the tongue, and the child is said to be tongue-tied. It must be remedied by clipping through the membrane with a pair of scissors, being careful to direct their points a little downwards to avoid cutting the lingual artery. But if the child can obtain no milk from the breast, in a reasonable length of time, a little brown sugar dissolved in water, or molasses and

water, may be given in place of the colostrum of the mother's milk. This is usually sufficient to purge the child and remove the meconium; or a little olive oil, say a teaspoonful, or four or five drops of castor oil, may be given. The best nourishment for the child, before it can be obtained from the mother, is cow's milk, boiled and somewhat diluted with water, taken always from a nursing bottle.

If it should be necessary to bring up the child by the bottle it should be restricted to a diet made to resemble the mother's milk, as near as possible, for at least, two or three months; and it should always be drawn through a teat fixed upon the mouth of the nursing bottle. After this period a small amount of oatmeal, arrow-root, or other farinaceous substances, may be mixed with the milk, and gradually increased as the child grows older. Of course, they should be boiled with the milk. A very good substitute for milk may be made as follows: Take a piece of gelatine two inches square, and add one pint of cold water, and allow it to soak for half an hour; then add two teaspoonfuls of arrow-root, three tablespoonfuls of cow's milk, and two of good fresh cream, with a small lump of white sugar, and allow the whole to remain upon the fire till it gently boils.

If a wet-nurse be employed, great caution must be used in making the selection. Her general health, habits, mode of living, etc., should be inquired into; her breasts should be full and plump, and her milk should have every appearance of purity and richness. The goat makes a

good wet-nurse, and is much used abroad. This animal is very docile, very easily domesticated, and is said to form an attachment for its foster child. Gooch, an English author says, "that the inhabitants of some villages abroad take in children to nurse; the goats, when called, trot away to the house, and each one goes to its child, who sucks with eagerness; and the children thrive amazingly."

We cannot close this chapter without saying a word or two as to the duty of mothers to nurse their own children. As before intimated, there may be circumstances making it necessary to provide for the babe in some other way. The mother's health may fail, she may have diseased breasts, her milk may be deficient in quantity or poor in quality, and unsuited for the child. But every healthy woman, whatever her station in life, should nurse her own child. 1. She furnishes her child the most natural nourishment, the most healthy and congenial food, to which it has a birth-right claim, and to deprive it of such a claim is inhuman and cruel. 2. By drawing away the natural secretions the danger of inflammation and ulceration of the breasts, with all their woeful consequences, is greatly lessened. 3. It prevents congestions of the abdominal and pelvic viscera, usually attendant upon labor, from bursting into frightful inflammatory diseases. It cannot be expected that such a violation of the humane provisions of nature will be unattended with bad consequences. If women are so situated that they cannot nurse their children through the whole period of lactation without submitting themselves to great inconveniences, they should, at

least, submit to it for a few months before handing the little dependents over to the wet-nurse or the bottle.

Ramsbotham, one of the most eminent obstetricians, speaking upon this subject, uses the following language:—

“Mothers should forego the pleasures of society, give up the necessity of appearing in public, and waive even the etiquette of court, if these pleasures or that etiquette interfere in any material degree with her duties to her infant.

I cannot allow that a physician would be honestly and conscientiously fulfilling the trust reposed in him, who did not even in the highest grade of society, point out the dangers that may spring from this most natural and engaging employment being abandoned; and I would always think better of a woman's feelings, both towards her husband and her infant, who gave it the advantage of her own breast.”

CHAPTER VII.

DISEASES OF FEMALES.

Falling of the womb and other uterine displacements—Their causes, symptoms, and treatment—Amenorrhœa or retention and suppression of the menses—Causes of retention of the menses—Want of development, stricture of the neck of the womb, imperforate hymen, and chlorosis—The symptoms and treatment—The causes, symptoms, and treatment of suppression of the menses—Dysmenorrhœa or painful menstruation—Condition of the womb—Causes, treatment, etc.—Menorrhagia or profuse menstruation—Its terrible consequences—Its causes and treatment—Leucorrhœa or the whites—How it destroys the human face divine—The causes, treatment, etc.—Pruritus pudendi or excessive itching of the external genital organs—May continue for life if left to itself—Its description, and the treatment recommended as infallible—Irritable bladder—Painful desire to pass the water at short intervals—Its horrible effects if left to itself—May continue for life—The infallible cure.

A FULL and accurate description of the diseases peculiar to the female organization—their causes, symptoms, and treatment—would of itself require a volume of no mean dimensions, and could be of little advantage except to the student of medicine, and as a work of reference for the physician's library. We have, therefore, concluded to devote merely the present chapter to a brief description of

some of the principal diseases of the female sexual system. Every woman should have some knowledge of such diseases; she will then be placed upon her guard against their approach, and be prepared to seek timely relief when made a sufferer, and, instead of months and years of disease, suffering, and melancholy, health and happiness may crown her future days. *Know thyself*, is one of the most important precepts given to human beings. One of the most common of these disorders is,

PROLAPSUS UTERI, or falling of the womb. This complaint, as its name purports, consists of a change in the position of the womb. The organ sinks down in the pelvis, and lies below its natural position. This may be very slight, or it may continue to descend, till it reaches the external orifice of the vagina, or it may be forced through and hang between the thighs.

Now, what are the causes of this distressing complaint? The womb is held in its place by its ligaments, the vagina, the bladder and rectum, and certain muscles lining the pelvis. But in the standing or sitting posture, the intestines above make a certain degree of pressure upon the womb almost constantly; and in coughing, lifting, straining at stool, etc., the descent of the diaphragm, and the action of the abdominal muscles, force the intestines down into the pelvis, and greatly increase this pressure. It is evident, then, that when the vagina, uterine ligaments, etc., lose their tenacity, and become so relaxed and feeble that they can no longer support the weight of the womb and the pressure above, the organ must sink lower down in the

pelvis. Anything, therefore, which relaxes these parts, or increases the pressure from above downwards, must be fruitful causes of prolapsus uteri. Hence, general poor health—the sexual organs partaking in the general debility of the system—diseases of the vagina and the womb; leucorrhœal discharges; bad treatment during labor; standing upon the feet and exercising too early after delivery; jumping and protracted dancing; relaxation of the abdominal muscles, allowing the intestines to descend lower into the pelvis, are among these causes.

The symptoms will vary according to the degree of the descent of the womb. There is, at first, some uneasiness or dull pain across the small of the back, and a sense of weight in the lower part of the pelvis, increased by being long upon the feet, and by walking, running or otherwise exercising in the erect posture; and these symptoms are, of course, relieved by rest in the recumbent posture. If the displacement continues to increase, these symptoms become more prominent, and others of a more serious character make their appearance to annoy and torment the patient. There will be pain in the groin, extending down the thighs, owing to the pressure of the womb upon the sacral nerves, and the sense of weight is sometimes so great that the patient feels as though everything would drop out of her. Owing to the pressure of the womb upon the bladder and bowel, there will be a frequent desire to make water and to evacuate the bowels. Sometimes the patient will be able to pass her water only in drops, at other times it will be necessary to draw it off with a catheter. Other

parts of the system become affected by sympathy. There may be headache, loss of appetite, distension of the stomach with flatus, palpitation of the heart, etc., and the countenance will wear an expression of dejection and distress, and the body will be a little inclined to the bending or stooping posture.

The treatment of this disease admits of great variation, according to the extent of the prolapsus, the condition of other parts of the genital apparatus, and the general health of the patient. If the womb protrudes through the vulva, its replacement should be attempted by careful and persevering manipulation, which will always succeed unless adhesions have formed between the organ and the surrounding parts. When replaced it must be held in its position, while other treatment is employed to palliate or entirely cure the infirmity. For this purpose various contrivances have been devised. Instruments called pessaries, are made of wood, ivory, glass, silver, vulcanized gutta-percha, cork, etc. They are made of various sizes and forms; and great care should be used by the physician in selecting one best adapted to his patient. It should be occasionally removed to be cleaned. It may sometimes be removed on going to bed, and reintroduced in the morning before rising. Tonic and astringent injections, and injections of clear cold water, are often of great service when thoroughly employed; but the common glass syringe is a miserable contrivance for this purpose, the patient usually doing more mischief than good with it. The vulcanized gutta-percha syringe, always on hand, and furnished for our patients at a reasonable ex-

pense, is the best that can be devised. It is so convenient, and so perfectly adapted to the parts, that in all cases of vaginal injections its use is a pleasure instead of a task. Galvanism has had some reputation in the treatment of this disease, and it will sometimes produce beneficial effects, but it usually fails altogether. When the abdominal walls are greatly relaxed, allowing the intestines to make an undue pressure upon the womb, some benefit may be derived from an abdominal supporter, if properly made and applied.

But no permanent benefits will be likely to follow any local treatment while the general health is bad and the system in a relaxed and debilitated condition; for the genital organs must continue to share in such relaxation. It is, therefore, the business of the medical man to make a thorough inquiry into the condition of his patient's general health, and ascertain what there is to be set at rights, and endeavor by the appliances of the varied resources of the *materia medica*, to give health, vigor, and tone to the system. By such combination of treatment the skillful physician will rarely fail to cure his patient.

Another displacement of the womb is known by the name retro-version, which means the turning or falling back of the organ. This displacement is by no means so frequent as prolapsus. Like prolapsus it may occur in the virgin, and in the married woman who is not pregnant, but much oftener in the pregnant female. But in the latter case it must occur during the first four months of pregnancy, for after that time the womb is too large to undergo such displacement. There are many causes which may produce

this accident, among which we may name a large pelvis, relaxed condition of the round ligaments, undue pressure of the small intestines against the front part of the fundus of the womb, and undue pressure upon its anterior part from any cause whatsoever. Hence an over distended bladder, during the first months of pregnancy, is one of the most frequent causes of this displacement.

The most prominent symptoms are such as arise from pressure upon the bowel and bladder. The fundus of the womb falls backwards against the rectum, and, at the same time, the neck is tilted forwards against the bladder, interfering, more or less, both with defecation and urination. This accident sometimes takes place suddenly when women are travelling, or in other circumstances where it is inconvenient to evacuate the bladder; and they may not be able to pass their water till the organ is replaced. In such cases where medical aid could not be obtained, rupture of the bladder and the death of the patient have been the result. The womb may be *bent* backwards in such a way that the neck will remain *in situ*. This is called *retro-flexion*.

Another displacement of rare occurrence is called *ante-version*, which means turning or falling of the womb forwards. This is just the reverse of *retro-version*, the fundus pressing against the bladder and the neck against the bowel. Both of these displacements, however, may exist without being sufficient to interfere with the bowel or bladder. The womb may be *bent* upon itself so that the fundus will fall forwards while the neck remains *in situ*. This is called *ante-flexion*.

We have no space in this book for further description of these infirmities; but will merely add that such patients should lose no time in placing themselves in the hands of a competent physician; and should carefully and perseveringly follow his directions. Delay, in such cases, not only adds to the suffering of the patient, and destroys her general health, but renders a permanent cure more difficult and protracted, and sometimes impossible.

AMENORRHEA literally signifies an absence of the menses, and includes both their *retention* and *suppression*, the former term being used to denote that condition of the system in which the function does not appear at the usual age and development of the female; the latter that condition in which, after the menses have been established, from some cause or other they are suddenly arrested. The term *cessation* of the menses more properly applies to their absence during pregnancy, lactation, and at the turn of life when the child-bearing period ceases.

The absence of the menses at the usual age for their appearance may depend upon defective physical development, mechanical obstruction, or derangement of the general health.

1. Defective physical development! The ovaries are intimately connected with the menstrual function. If they are extirpated, menstruation, as well as child-bearing, ceases, and if they are not sufficiently developed at the usual age of puberty, menstruation must be delayed till such development is attained; and this is an important point in practice. The mother is alarmed about her child

because she does not have her courses at the usual age of puberty, and she seeks the advice of a medical man. If an experienced man he can usually tell, almost at a glance, whether the absence of the function depends upon any want of physical development. For at puberty an important change takes place in the physical appearance of the girl. Her chest is more expanded, her breasts are fuller, and her hips are broader, and there is a general fullness and embonpoint, which always mark the change from childhood to womanhood. These changes depend upon the growth and development of the ovaries, and if they are well marked the girl ought to menstruate; if not, she is still a child, and no medicine should be given to force the menses. Such practice, we are aware, is common, but it is the worst kind of malpractice. You might as well give medicines to force the testes to secrete semen before puberty, or to force a child to walk before the time. If such patient's general health be good—which, however, rarely happens—the only thing to be done is to avoid all depressing agents, such as foul air, close confinement to hot rooms, sedentary habits, etc., and adopt a generous diet, take plenty of exercise in the open air, tepid baths if convenient, and, perhaps, a little pleasant tonic beverage. Such a course will favor a more rapid development of the physical system. But there is no use in trying to force the menstrual function till such development is reached.

2. Mechanical obstruction! This cause is about as infrequent as the former, but it sometimes exists, and, unless removed by the medical art, is certain to prove fatal.

There may be a stricture of the neck of the womb, or a congenital closure of the mouth of the womb, or, what is more frequent, an imperforate hymen entirely closing the external orifice of the vagina. Either of these obstructions would, of course, prevent the blood from escaping externally, which must be retained in the vagina or the womb as the case may be, greatly distending those organs and producing painful and fatal results if allowed to continue. A cure can usually be effected by an operation. If the obstruction arises from an imperforate hymen, the operation is very simple, and is attended with no danger and no pain worth noticing, for a simple incision made through the membrane, removes the obstruction, and allows the pent up materials to escape. The operation for occlusion of the mouth, or stricture of the neck of the womb, is more difficult, but not insurmountable.

We should not forget to observe that the pressure of such retained menstrual fluid may so enlarge the womb, as to simulate pregnancy. Many a virtuous girl has been suspected of imprudence, and had her character maligned and blasted from this cause. A thousand tongues are always busy in giving currency to such rumors; and it is the duty of the physician to protect and fortify the character of his patient, under such trying circumstances; for character, especially in the female, is without price; it is the ægis of her existence, without which, she is nothing, with which, she is an angel of light, a queen, a potentate.

3. Derangement of the general health! This is peculiar, and known by medical men as *chlorosis*, but more fre-

quently spoken of by nurses, as the *green sickness*. It is in some way associated with the uterine function; and it is common for young girls, about the age of puberty, and for those who have menstruated, but in whom the function is much disturbed and irregular, to show signs of this disease. It may be very slight, but it is often very severe in cases of total retention. Both the nervous and vascular system are deranged, and the blood is viciated and watery, and the symptoms arising from such a condition may be enumerated as follows:—

Pallor of the surface of the body, not unfrequently assuming a greenish or yellowish hue, is one of the most constant symptoms. In some parts of the countenance, such as the eyes, nose, and lips, this is more marked than in others, giving the pallor its peculiar characteristic. The digestive functions are usually much impaired, there is loss of appetite sometimes amounting to a loathing of the ordinary articles of food, and a longing for unnatural substance; the tongue is covered with a white fur, and the bowels are usually constipated. The debility is seen in the general lassitude, aversion to exercise, the yawning, lounging, indolent ways; swelled face in the morning, and swelled ankles at night. The disturbance of the nervous system is seen in the headache, palpitation of the heart, irregular pulse, restless nights, and, perhaps, hysterical fits. A hacking cough, dull pains in the back, loins, and hips, with a dragging sensation, are quite common. In short, all the functions of the system may be disturbed.

In the treatment of this disease attention to the digestive

system is of primary importance ; for unless the patient can appropriate a reasonable amount of nutritious food, she cannot be restored to health. If the bowels are constipated, a good brisk purge should first be given, which will have a healthful influence upon all the functions of the system. This will do more than all other remedies to create an appetite and set in motion the functions of the digestive system. Afterwards, if there should be a tendency to costiveness, a little aperient medicine, such as castor oil, rhubarb and magnesia, the antibilious pill, etc., may occasionally be administered. It should be given in very small doses at night, to produce a movement of the bowels in the morning. One free movement of the bowels in twenty-four hours is usually sufficient, and the dose should be no larger than is necessary to produce that effect. The ferruginous preparations, or blood-making remedies as they are very properly called, are indispensable in the successful treatment of this disease. They not only improve the condition of the blood, and give tone and strength to the general system, but they increase the appetite and the digestive powers, by the healthful and invigorating influence which they exert upon all the digestive organs. Such preparations should always be given after meals, as they will then be thoroughly incorporated with the ingesta, and more readily pass into the circulation. Great attention should be given to the diet, which should be nutritious, but not difficult of digestion. Exercise in the open air, and general hygiene, should also receive proper attention. Under such a course of treatment, prescribed and superin-

tended by a skillful physician, the blood will be enriched, the digestive organs will be set at rights, the nervous system will assume its normal tone, the patient will grow strong, vigorous, and cheerful, and feel that she has been translated into a new world of thought and action.

But the menstrual function may have been established for months, or years, and by certain causes operating at the time of the menstrual flow it may be suddenly arrested, or if these causes operate just before the monthly period the return of the menses at the usual time may be prevented. Such arrests are known as the *suppression* of the menses.

One of the most common causes of such suppressions, is insufficient clothing, and a reckless exposure in cold, wet weather. A woman in thin soled shoes, or with other parts of her body insufficiently protected—a very common cause in this country—goes into the snowy streets; or she puts on damp clothes, or sits upon the damp ground, or in some other way gets wet and chilled, and suppression of the courses is the immediate consequence. Strong mental emotions are another fruitful cause. A female gets alarmed by a storm at sea, by fire upon the land, by sudden danger in traveling; or she unexpectedly hears of the death of a friend, or meets with sudden disappointment, or some joyful news bursts suddenly upon her, and her menses are at once suppressed. Suppression may also result from the prostrating effects of many diseases, such as consumption, scrofula, anæmia, chronic liver diseases, fevers, etc., etc.

The symptoms vary according to the constitution of the

patient, and the time the suppression continues. With some there is slight headache, a sense of weight about the pelvis, and more or less pain in the back, and loins, and, perhaps, some dizziness when stooping down or bending forward, etc. In other cases, these symptoms will be greatly aggravated. There will be a feeling of heaviness or pain in the head; the veins of the forehead will be prominent and throbbing; the face flushed; the skin hot; the pulse frequent and bounding; and there may be congestion or even inflammation of the womb. There may also be vertigo, hysteria, and sometimes epilepsy. The pain and weight about the lower part of the body may become very severe. From this condition of the system nature sometimes attempts to relieve herself by eliminating blood from various other organs, such as the lungs, the stomach, the bowels, the nose, etc., termed vicarious menstruation.

If such suppressions are allowed to continue, the powers of the system will be prostrated and enfeebled, and consumption will be induced, or in some other way the disorder will have a fatal termination.

Sometimes the discharge will not cease immediately, but at each monthly period will become less in quantity, and lighter in color, generally preceded and followed by leucorrhœal discharges.

In the treatment of this disease, the patient should be immersed in a warm bath, as soon as possible after the suppression, and kept there till the system is completely relaxed, say twenty minutes or half an hour. If this cannot be done, a good alcoholic sweat is the next best thing.

Place the patient in a cane-bottomed chair, surrounding her with a quilt extending from her neck to the floor; then pour a little alcohol into a common saucer, and having placed it under the chair, set it on fire, and in a few moments the patient will be in a copious perspiration. This is more efficient than the common practice of placing the feet in a bucket of warm water, and rubbing the legs with ground mustard. In the mean time some hot tea made of one of the aromatic herbs, the pennyroyal being the best, may be freely drank; or a little hot gin and water sweetened with sugar may be given, especially if the patient can't bear it; but if it is really pleasing to her, it might be flavored with a little assafetida or other disagreeable substance. Such beverages increase all the secretions, and, therefore, act favorably upon the menstrual function. A dose of aloes, or aloes and myrrh, should also be given, especially if the patient's bowels are at all confined.

The above means will often be sufficient to re-establish the discharge, but they will sometimes fail, and the patient may be obliged to wait till the next menstrual period. In such cases, the treatment should be commenced a few days before the next period, and continued beyond that time, unless the object is sooner attained. The bowels should be freely moved and kept in a soluble condition, and unless the patient is badly troubled with piles, one of the best emmenagogues is the aloetic and iron pill of the U. S. Dispensatory. From one to three of these may be taken every day. It should be borne in mind that the menses are more easily re-established at the menstrual period, than at any other

time ; but the question of allowing the patient to pass over to the next period, before resorting to active treatment can be decided only by the experienced physician ; and this leads us to remark, that in all difficult cases the services of a skillful physician are of great importance. It is his business to understand the cause of the obstruction, the condition of the womb and general system, and to base a proper treatment upon such knowledge.

DYSMENORRHEA, OR PAINFUL MENSTRUATION, is a distressing complaint to which all females are liable, but the unmarried are the greatest sufferers, and marriage very often acts like a charm in the cure of the patient. The usual symptoms are severe bearing down pains in the region of the uterus, sometimes so very distressing as to resemble labor pains ; dull pain across the small of the back, in the loins, and lower extremities, and shooting pains in the breasts, with a sense of fullness and tightness in the head. These symptoms usually precede the discharge some few hours ; but as the discharge becomes established they gradually diminish and cease altogether. The pains are sometimes so severe that nervous females faint, or go off into hysterical fits, producing great alarm for their safety, and a speedy dispatch for the doctor.

This condition of the uterine function may depend upon various causes. 1. Congestion of the blood-vessels of the uterus, causing an exudation of coagulable lymph which organizes into false or pseudo-membranes similar to the membranous formations in croup. When this exists shreds or flakes of this coagulable lymph will come away with the

discharges, producing the most violent pains in its separation and expulsion. 2. The pain may be entirely functional, depending upon a feeble, nervous, irritable constitution. This, we think, is a very common form of dysmenorrhœa. 3. Stricture of the neck of the womb, forming an obstruction to the free passage of the menstrual fluid, is another cause which has somewhat attracted the attention of the profession within the last quarter of a century. Now the above are the principal causes, or varieties, of dysmenorrhœa; but it should be remembered that uterine pains may be produced by various organic diseases of the womb, tumors, etc., all of which must be distinguished by the physician from true dysmenorrhœa.

But what are the general principles of treatment in such cases? As a mere palliation, or temporary relief, when the patient feels the pains coming upon her she should take a warm hip bath, and remain in it for some time, being careful to keep the other parts of the body well covered. The bath should be as warm as can well be borne, and kept so by the frequent additions of hot water. The patient should then take her bed, and a hot brick should be placed to the lower part of her back, and flannels wrung out of hot water should be frequently applied to the lower part of the abdomen and the vulva. An anodyne may also be given, such as Dover's Powder, Hoffman's Anodyne Liquor, or Elixir Paregoric in a little sweetened water. Any of these preparations are better for such purposes than Laudanum, Morphine, or the powdered opium, as they do not arrest the natural secretions. Relief may also

be obtained by throwing very warm water up the vagina with a properly constructed syringe.

But a permanent cure is the *sine qua non*, to effect which a well digested course of treatment, founded upon the true pathology of the disease, must be kept up during the intervals, and at the time of the menstrual courses. The first thing, therefore, which the physician endeavors to ascertain is the true cause of the pains. Do they depend upon congestion of the womb? if so, the principal treatment must be founded upon that condition of the organ, and will be readily marked out by the intelligent physician. Are they the result of some functional derangement of the organ depending upon a nervous, irritable condition of the system? if so, another, and entirely different, treatment must be adopted and continued till a favorable result is reached. Do they depend upon stricture of the neck of the womb? if so, the obstruction to the free passage of the menstrual fluid must be overcome by the process of dilatation. In addition to the treatment founded upon such knowledge, there are certain reputed specifics, which the physician may employ from time to time with the happiest results; such, at least, has been the experience of the writer.

One word about stricture of the neck of the womb as the cause of dysmenorrhœa! When this exists a silver sound, properly curved, highly polished, and well oiled, should be used to overcome the obstruction. If not too large it can be introduced into the womb by a skillful manipulator, without producing any pain or uneasiness.

It may be introduced every two or three days till the obstruction is removed. Of course, this should never be attempted by any except a physician skilled in this department of medicine. But when no obstruction exists, and when the dysmenorrhœa is a mere functional derangement, the presence of the uterine sound is often followed by the most salutary results. Its occasional introduction acts as a peculiar stimulus to the organ, tending to restore its natural and healthy function. This practice in the hands of the writer has been highly successful; but it cannot be recommended without due regard to propriety and the fitness of the patient. When, however, the patient has passed from her virgin condition, and other means are but partially successful, this practice is proper and necessary.

MENORRHAGIA, OR PROFUSE MENSTRUATION, signifies an excessive loss of blood at the menstrual periods. The discharge is sometimes too rapid, or, it is prolonged beyond the natural or accustomed time, or both of these conditions may exist; and in some cases the discharge returns more frequently than natural. All menstruating females are subject to this disorder, and the drain of blood from the system is not unfrequently so great as to endanger the health and even life of the patient without the prompt and judicious interference of the medical art. Uterine hemorrhages depending upon various diseases of the womb, miscarriages, abortions, delivery, etc., should not be confounded with menorrhagia, though various diseases of the organ may furnish outlets for menorrhagic discharges at the return of the menstrual effort, bleeding being forced at

that time, which would take place very slightly or not at all at other times.

These discharges depend upon various causes, and when they once occur they more easily make their appearance at subsequent menstrual periods.

1. The excessive force of the heart's action, in a plethoric female, may be sufficient to overcome the resistance of the distal extremities of the blood-vessels of the womb, and a discharge may take place, which, if continued at subsequent menstrual periods, will change the female of full habit, bounding pulse, and rosy cheeks, into a feeble, anæmic, melancholy woman, prematurely old, and dead to the enjoyments of life.

2. A feeble, debilitated condition of the general system, depending upon fevers, scrofula, syphilis, or any other causes, is a fruitful source of menorrhagic discharges. In such cases all the tissues of the body are relaxed, the womb, of course, partaking of this general relaxation. The blood is also vitiated, and watery, and easily percolates or oozes through the blood-vessels, or, to use Professor Meigs' language, it "*soaks through.*" This condition of the general system will also be produced by menorrhagic discharges, so that what is often the cause is sometimes the result of menorrhagia.

3. There may be a feeble passive condition of the blood-vessels of the uterus, not depending upon general debility or any other derangement of the general system. For menorrhagia very often appears in females whose general health is in a sound condition, there being neither ple-

thora, nor anæmia, the heart beating neither too forcibly nor too feebly. In such cases, therefore, the disorder is of a local character, being confined to the womb itself.

4. Abnormal growths within the cavity of the womb, tumors of various kinds, especially polypus, may give rise to menorrhagic discharges. If, however, the bleeding observes no regular period, but takes place at any time; or if it come from the tumor itself, it would be improper to call it menorrhagia. But such growths, acting as foreign bodies, sometimes create very great irritation of the organ and give rise to an excessive discharge of blood from the uterine surface, during the menstrual nixus; and under the same influence the discharge may be continued beyond the ordinary period. This would be a true menorrhagic discharge.

The profuse periodical discharge of blood from the vagina, is the obvious symptom or sign by which we know that menorrhagia exists. The other symptoms may be summed up in a few words. As we have already intimated, there will be general poor health, debility, anæmia, and all the functional derangements resulting from the excessive loss of blood. There will be weakness, and, perhaps, pain in the back, extending to the hips and thighs; headache and neuralgic pains in the face; pains in the stomach, flatulent bowels, and sometimes an obstinate diarrhœa; and as the disease progresses, melancholy, fainting fits, and even epilepsy may occur.

The general principles of treatment may be briefly stated as follows:—When the patient has lost as much blood as

may be deemed proper, considering her general health, and the amount she loses at her menstrual periods when the function is in a healthy condition, she should take her bed, or, at least, maintain the recumbent posture, and cloths wet with cold water and vinegar should be applied to her abdomen, and also placed under the small of her back. This simple means will often be sufficient to check the flow; but if not, more efficient means must be employed. The cold douche may be used upon the lower part of the abdomen; and cold water thrown up the bowel occasionally is often a very prompt means of arresting the discharge. Various astringent and specific medicines may be employed, such as acetate of lead rubbed up with a little powdered opium; or, if the opium is contra-indicated, it may be rubbed up with a little powdered nutmeg, or other aromatic powder; gallic or tannic acid may be given in five or ten grain doses in a little syrup or sweetened water; or the dilute sulphuric or muriatic acid may be given sufficiently diluted with sweetened water, or some other vehicle more agreeable to the palate. All these agents have proved highly serviceable in the hands of the author. But there is another remedy, which our experience has taught us to place at the head of the list; we mean the *secale cornutum*, commonly called ergot. This has a specific action upon the womb, condenses its bulk and contracts and tightens the blood-vessels, thus checking, or entirely shutting off the discharge of blood. The freshly powdered ergot may be obtained, and given in small teaspoonful doses, in a little syrup, or cinnamon-water, or

in any simple vehicle that is convenient; or the wine of ergot may be used instead of the powder. Three or four doses may be given during the day or night if necessary. It is not an unsafe remedy.

But occasionally the physician will meet with obstinate cases, which will steadily resist all such treatment, and then he will be obliged to resort to another means that never can fail if properly and thoroughly employed. We mean the tampon, or plugging the vagina. Old linen or muslin cloths will answer the purpose. First, tear off a few pieces four or five inches square, and put them up to the womb, thoroughly and firmly impacting them around and upon the neck and mouth; then larger pieces must be crowded in upon them till the vagina will hold no more. Next a napkin should be firmly applied to keep the stuffing from falling out. If this is thoroughly done it will require no small amount of rags, and if not thoroughly done it can accomplish no good, but rather harm. We have sometimes used the larger part of an old shirt for this purpose. The physician may prefer to use sponges, which will answer just as well, but, in my opinion, no better. In either case small pieces must be well impacted about the mouth of the womb before crowding the vagina full. The unimpregnated womb is small; its cavity can hardly hold more than an ounce or two, even in women who have borne children, and in the virgin not more than a few drams. When, therefore, it is completely filled the pressure of the blood upon the extremities of the blood-vessels arrests its further escape. Therefore the tampon must be thoroughly ap-

plied, as we have pointed out, to prevent the escape of the blood from the womb into the vagina. It is well enough to remark, in passing, that the same rules will not apply in the use of the tampon to arrest flooding after delivery, at full term, as the cavity of the womb is then so large that death might take place from internal hemorrhage.

The well educated physician will, of course, exhaust every other means before resorting to the tampon in the virgin; but when her life, or even her health, is likely to be endangered he is recreant to his duty if he does not promptly resort to this infallible means of arresting the flow.

During the intervals of such periodical discharges, the attention of the physician must be directed to the condition of the womb and the general system, upon which he must base a successful treatment. If the discharge depend upon polypus, or some other growth within the womb, surgical aid will be demanded; if upon the immoderate and excessive force of the heart's action—a cause by no means common—means can be employed to correct that trouble; if the original trouble seems to be in the womb itself, whatever there is in the medical art to produce the proper density and tonicity of that organ should be most assiduously employed; and if the general health is at fault, either as the original cause or as the result of the loss of blood, it must be restored and fortified by a thorough course of tonic treatment; at the same time paying special attention to the condition of the bowels and all the organs of the digestive system. The best tonics for such purposes are the barks and their preparations,

and some of the preparations of iron, such as Vallet's ferruginous pill, iron by hydrogen, the muriated tincture of iron, or the precipitated carbonate of iron rubbed up with a little balsam of tolu, gum arabic, and syrup, diluted by gradually stirring into it cinnamon water or other agreeable vehicle, to be thoroughly shaken before taken, as the iron quickly subsides to the bottom. The patient should also have a generous meat diet; and in pleasant weather she should take as much exercise in the open air as her strength will admit without fatigue; also cold, tepid, astringent, or saline baths may be employed to some advantage.

LEUCORRŒA, FLUOR ALBUS, OR THE WHITES.—This disorder is characterized by a bloodless discharge from the vagina which is usually white, and hence commonly called the WHITES. But sometimes it is green, yellow, or brownish. In consequence of its weakening effects upon the system, it is also spoken of as *female weakness*. This is a very common disorder among females. It is also a very disagreeable, loathsome, and annoying complaint, and if allowed to continue will sap away the very foundation of the system, and entail upon the female a broken down constitution, premature old age, and an untimely death.

Among the causes of leucorrhœa, we may first name such disorders as produce an irritation and consequent enfeebled condition of the vagina and womb, such as warty excrescences of the vagina or external parts; pruritus pudendi or excessive itching of the vulva; piles, and thread worms in the lower bowel; induration or ulceration of the os uteri;

or any sort of diseases of the vagina or the womb. In some women the menstrual period is always preceded by a slight mucous discharge from the vagina, and sometimes terminated in the same way. During pregnancy, especially the last months, such discharges are so common that they attract little attention, being usually the result of an enlargement of the mucous follicles of the neck of the womb. And at that period of life when the menses cease altogether, they will sometimes be followed by a light colored discharge, more or less periodical in its return, which, without judicious treatment, may continue for years.

When the discharge is muco-purulent, that is, a mixture of mucus and pus, there must be some chronic inflammatory action of the vagina or uterus; for pus can be produced only by inflammation. But discharges depending upon some functional derangement of these organs, or upon some derangement of the general health, accompanied by debility, relaxation, and nervous disturbance of the system, the sexual organs partaking of such general disturbance, are the most frequent, persistent, and destructive causes. Such discharges are white, or of a very light color at first, but if the disorder continue for a considerable time they may gradually become greenish, or of a dirty brownish hue.

This discharge may proceed from the vagina, or from the uterus, or from both; and in practice it is sometimes important to distinguish between these conditions. For this purpose we have three prominent means of diagnosis:—

1. In the severe forms of the disease, attended by constitutional derangement, we infer that the discharge comes from the uterus, as the sympathy between that organ and other parts of the system is very intimate; but in those more trifling forms, in which the general health does not suffer materially, we suppose the fault to be in the vagina, as the sympathetic connection between that organ and other parts of the constitution is by no means so great.

2. From the character of the discharge! When it comes from the uterus it is found to be thick, and jelly-like, it will feel sticky to the fingers, and if placed under the microscope it will be seen to contain mucous globules; whereas, the discharge from the vagina is thin, opake, and creamy, and the microscope detects a substance called epithelial cells, which comes from the mucous lining of the vagina.

3. By the use of the speculum! For this purpose a bi-valve speculum, or one with a fenestrum, or an opening in the side, should be used to bring into view not only the mouth of the womb, but also a portion of the vagina. The vagina should first be thoroughly washed out by throwing tepid, or warm water up to the mouth of the womb with a good vaginal syringe, and then the speculum should be introduced. By this means the matter will be seen to collect upon the vaginal surface, or to ooze from the mouth of the womb, or both, as the case may be. Such means of diagnosis, however, should be recommended with great caution, and is seldom necessary or profitable in the management of these cases.

In all bad cases, the general health, as already intimated, severely suffers. There will be debility and relaxation of all the tissues of the body, indicated by the soft, flabby condition of the flesh; and there will be anæmia, or a viciated and watery condition of the blood, and a sense of lassitude or weariness as though the patient had overworked herself, though she may have done little but to lounge about, yawning, sneezing, and coughing, upon exposure to the slightest draft of air. The digestive system is more or less deranged; and, at times, there may be nausea, vomiting, and loss of appetite; palpitation of the heart, and short breathing; dirty tongue, and weak irritable pulse; dull pains in the back and loins; and a weary dragging sensation in the left side, and pain in the head.

This disorder is a great destroyer of the "human face divine." Sooner or later the complexion assumes a pale, sallow appearance, quite peculiar to this disease, and repulsive to look upon, however beautiful the general outlines of the features. When well marked, the physician is seldom at a loss to understand its true cause. Also, the loose tissues under the eyes assume a brownish leaden color; but this symptom may be produced by other causes, such as menorrhagia, anæmia, chlorosis, etc.; and a bluish circle about the eyes, more or less marked, is present during the menstrual flow.

These acrid discharges often produce abrasions of the mouth and neck of the womb in the form of red inflamed patches, which, as the disease advances are converted into

ulcerating sores. From the same cause the lining coat of the membrane of the vagina will sometimes peel off in various portions of its extent, producing much suffering in walking, during the menstrual flow, etc.

The general treatment for this disease may be stated as follows:—First, the physician should ascertain, if possible, the real cause of the discharge, and then mark out his treatment in accordance with such knowledge. If it depend upon any organic disease, such as we have already named, that disease must be cured as speedily as possible, and then the discharge will usually disappear; but once established it will sometimes continue after the original cause is removed, and other treatment must be employed to effect a perfect cure.

But when the disorder depends upon some functional derangement of the uterus, and the general system is involved in the trouble, the treatment must be both local and general. If the discharge comes from the womb, or if the nervous system is much disturbed, some advantage may be derived from counter-irritation over the spine. Great attention must be given to the general health, which, in all serious cases, is more or less at fault, either as the original cause, or as the result of the disease. A thorough, judicious, and carefully selected tonic treatment must be prescribed. The acids, preparations of bark, and the ferruginous preparations, are the most efficient when properly selected. Iron, in some form, should always be employed, as it improves the digestion, and increases the red corpuscles of the blood, which are deficient in this

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disease. A generous meat diet, exercise in the open air, and an occasional bath suited to the condition of the patient, will complete the tonic part of the treatment.

Astringent injections should never be omitted, for when properly and thoroughly employed they are very efficient in arresting the discharge. Sulphate of zinc, acetate of lead, or the liquor plumbi subacetatis largely diluted with water, tannic acid and alum, and bicarbonate of potash or soda, the aromatic wines, and the tincture of iodine sufficiently diluted with water, are some of the substances from which to make a selection. Anodyne injections may sometimes be used when the parts are painful. These injections are not thrown into the womb, but against the lower part of the organ; and their influence is transmitted, in a greater or less degree, through the entire organ. Not only the vagina, therefore, but the womb itself is brought under the healing influence of these injections when properly employed.

The patient should be furnished with a suitable syringe—the vulcanized gutta-percha syringe kept in our office, and furnished our patients at a reasonable price, being the very best that can be invented. They have the advantage of never getting out of order; and in addition to the ordinary sized pipe, there is a smaller one which can be used when the parts are irritable, painful, or sore.

In addition to the above treatment, there are certain remedies which often exert a specific influence upon this disease, though their *modus operandi* cannot be satisfactorily explained. Such are some of the essential oils,

balsams, etc., of which the physician can make trial when other means are but partially successful.

PRURITUS PUDENDI literally signifies itching of the pudendum, or the external genital organs of the female. It is often confined to the vulva, or space between the lips of the pudendum, but we have sometimes found it extending into the vagina, urethra, and over the perineum and anus. It may occur at any period of life, but especially at puberty, during pregnancy, after delivery, and at the final cessation of the menstrual function.

The characteristic symptom of this disorder, as the name implies, is itching, which may vary in intensity, but it is usually very distressing. The suffering is far worse than any kind of pain, greatly disturbing the patient's rest, and at times driving her almost frantic; and, to add to the misery of the unfortunate victim, it is sometimes accompanied with a burning or prickling sensation, and the inclination to rub and scratch the parts becomes irresistible, bidding defiance even to the restraints of delicacy. And the scratching can only afford temporary gratification, and always aggravates the complaint, of which patients are fully sensible, still they can hardly resist the temptation. They will sometimes leave their work or their company to indulge in this fantastic, defiant sort of gratification, a gratification mingled with suffering, and entailing misery upon the unhappy victim. To reason with such a patient is out of the question, for she has not always the power to restrain herself; she will rub and scratch most defiantly whatever the consequences.

We have known females suffering from this disorder to retire, in a great measure, from company, and give themselves up to solitude and melancholy, which in itself would add to the severity and persistence of the complaint. The temper of such women will sometimes undergo a great change. The most agreeable, courteous, and entertaining may become so fractious, irritable, and discourteous as to poison the minds of all around them and keep their whole household in a state of tumult.

This disorder is often associated with *furor uterinus*, as some authors term it, which means an excessive and unconquerable desire for venereal indulgence. Ladies of the most undoubted virtue in seeking relief from this disorder have confessed that their lascivious impulses were irresistible, and that they could not look upon men without experiencing those sensations which were alone the right of their husbands. This feeling is sometimes so overpowering as to produce insanity, and it is then called *nymphomania*. A very remarkable case of venereal *furor* came under our notice when practicing medicine in New York. The patient, a very excellent lady, sought relief at our hands. Upon hearing the case we advised an examination, to which she acceded. There was no inflammation, pain, or soreness of the parts, but upon attempting the examination she began to tremble, and soon passed into hysterical paroxysms, as the result of the sexual passion produced by the touch of the finger. But the reader must not suppose that such passion is always associated with *pruritus pudendi*. On the other hand the ordinary

sexual excitement is often destroyed, in a measure, by the existence of this disorder.

But pruritus is not limited to the sexual organs of the female. Men are liable to the same disorder, which may exist in every degree of intensity, their sufferings sometimes being very great. But in men it is more endurable than in women, as the former are not so much under the restraints of delicacy, some of them being very bold in the freedom with which they resort to that little operation called *scratching*. Some men have this disorder as long as they live, preferring to doctor themselves or to resort to the nostrums of Tom, Dick, and Harry, rather than submit to skillful treatment, and pay a trifling fee. The glans penis, the prepuce, the meatus urinarius, the scrotum, the perineum, the anus and the roots of the hairs, are the parts liable to be affected.

In either sex pruritus may be associated with an eruption of little pimples, pustules, or aphthous spots. The latter consist of little pearl-like elevated spots, like the thrush of infants, which is sometimes found about the glans and prepuce of the male; and upon the vulva, extending, perhaps, into the urethra and the vagina of the female. Thread worms in the lower bowel will often give rise to excessive itchings of the anus, extending, perhaps, to other parts. Children sometimes suffer greatly from this cause, and without medical relief the vigor and stamina of their systems may rapidly decline. Dr. Churchill thinks that, in the female, this disorder may often be traced to some disease of the mouth or the neck

of the womb, or the lining membrane of that organ, but he cites only one case in confirmation of his opinion. Now it has been our lot to make many such examinations, and with the highest respect for the opinions of that illustrious physician, we have been led to a very different conclusion. This itching disorder, according to our observation, seldom, if ever, depends upon any disease of the womb except in an indirect way, viz., the acrid discharges from the womb and the vagina, as in leucorrhœa, may produce excoriations and *itching* of the external organs; hence, women who are troubled much with the whites may also suffer from excessive itching of the external parts. How often do we find ulceration of the os and cervix uteri, and congestion and inflammation of the organ, and various tumors growing within its cavity, etc., etc., with no appearance of this itching disorder.

Want of cleanliness must be regarded as a very common cause of this disorder. Some persons are so averse to the use of soap and water that they allow the acrid discharges, together with other filthy and poisonous materials, to collect and dry upon the parts, which in due time may develop this complaint. But this cannot be the only cause, as we often meet with it in persons of the most cleanly habits.

Pruritus is sometimes infectious, and it may be communicated from one sex to the other, and mistaken for venereal disease. Dr. Dewees relates a case of this kind. A lady was affected with this disorder, associated with aphthous eruptions, which she communicated to her hus-

band. She thought her husband had given her the venereal disease, and the husband accused his wife of the same dirty trick. The crimination was, therefore, mutual and earnest, and preparations were being made for a separation. But before proceeding to such extremity they agreed to consult the illustrious Dewees, and abide by his decision. This was a wise step, as it resulted in a satisfactory explanation of the nature of the infection, its complete removal, and the reunion and happiness of the parties.

More than one case of the above description has come under our observation. People are wiser now than formerly, and, in suspicious cases, much bolder in seeking the advice of the medical practitioner. For every person with any honor, or pride of character in his composition, wishes to have such a matter finally and positively settled, pro or con, whatever the consequences.

We have said that pruritus is sometimes associated with eruptions; such as pimples, vesicles, or aphthous spots, but in a large majority of cases nothing of the kind exists; neither will any other organic disease be found upon which the itching depends. Upon examination, a little dryness, redness, erosion, and slight bleeding, as the result of rubbing and scratching may be found, and that will be all. In such cases as we have before intimated, it seems to be independent of any other disease, and must be treated accordingly.

As it respects the treatment of this disorder, we have a few thoughts to impress upon the minds of the afflicted.

If the itching depend upon, or is associated with any other disease, such as worms, eruptions, excrescences, tumors, leucorrhœal discharge, etc., that disorder must be removed before the itching will disappear; for, while it remains, partial and temporary relief only can be effected. It should also be remembered, that, when this hateful disorder has been well established, it will not always disappear when we remove the cause which first produced it, and an additional and separate treatment, adapted to the pruritus itself, must be employed.

As in all other local diseases, the general health should be carefully looked after, and whatever organic or functional derangement may be found should be corrected. The digestive system, in particular, may be at fault, and a treatment adapted to the condition of the stomach, bowels, and liver, should be selected by the skillful practitioner. Attention should also be given to the regimen, hygiene, etc.

But in a majority of cases, as we have before stated, no organic or functional disease of the sexual organs will be found as the cause of the pruritus; and very often the patient's general health will be very little, or not at all disordered, and the diet, exercise, etc., unobjectionable. These cases are sometimes the most persistent, and rebellious to treatment. As laid down in our text books, the main treatment, in such cases, consists in astringent and anodyne lotions and ointments, which, at the best, can afford only partial and temporary relief.

In such works this complaint is usually passed over with a very brief and imperfect notice; not because it is not a

common and distressing complaint, but because it has been regarded as an annoyance rather than a dangerous disease, and also because the treatment has heretofore been uncertain and inefficient. And we freely confess that, if we possessed no more certain means of cure than we once employed, following those works as our guide, we should feel inclined to say little about this distressing complaint; for in a popular work like the present, we could derive no pleasure in describing the sufferings of our fellow creatures, without the means of their relief. Such means, however, we now possess! Our opportunities for testing the virtues of various remedial agents in the treatment of this disorder, have been ample and successful, enabling us to devise a plan of treatment which proves infallible. This, we are aware, is very strong language; but the success of our practice justifies its use; and, with a fair opportunity, we do not and will not fail to cure this distressing complaint. In the spirit of justice and fair-dealing, therefore, we offer this treatment to all scratching sufferers at a reasonable compensation for our professional services. Patients at a distance can consult us by correspondence, or through their friends, and all necessary instructions and remedies can be sent by express to various parts of the country. Though open to the suspicion of selfishness—for we are free to confess that we live by our profession—we cannot refrain from urging this treatment upon such patients, as a matter of humanity, knowing its great efficacy in the relief of suffering, in chasing away melancholy, and substituting, in its place, a cheerful, animated, happy disposition.

When we commenced this chapter, we intended to give a brief description of the various disorders of pregnancy ; but we find our space is insufficient. We must, therefore, be content in merely alluding to them :—

Morbid appetite ; sour stomach, commonly called heart-burn ; costiveness ; hemorrhoids, or the piles ; dropsy of the feet and legs ; palpitation of the heart ; fainting fits ; tooth-ache ; neuralgic pains ; cramps in the legs ; and the morning sickness, which we have already described as one of the principal evidences of pregnancy, are some of these disorders. They may be very slight, or very severe and distressing, requiring medical attendance.

But the most distressing disorder of pregnancy is known as IRRITABLE BLADDER. This, however, in its most distressing forms, is more frequently the consequence of parturition, the child's head making undue pressure upon the bladder ; and unless the patient has the most careful and skillful treatment, it may continue, with more or less severity, for life. The patient is tormented with a painful desire to pass her water at very short intervals, though there may be but few drams or ounces of urine in the bladder ; and the passage of the warm urine, loaded with its pungent salts, over the irritable or inflamed surfaces, usually produces a painful, scalding sensation in the urethra and at the neck of the bladder. This is often so severe as to drive females from society and compel them to lead lives of solitude and melancholy, which but adds fuel to the flame already consuming their lives. Irritable bladder may be produced by many other causes, and may exist in either sex, and at

almost any age, a further description of which may be found in the last chapter of this book.

For some time past, our treatment of this disorder has been invariably successful. Patients, who had suffered for years, and had taken bottles and boxes of medicine to little or no purpose, have entirely recovered in a few weeks or months by availing themselves of our recent treatment. Indeed, we should be extremely mortified, not to cure the disease in a patient who follows our simple directions, and uses our remedy as pointed out. This treatment is now free for all at a reasonable compensation, and can be sent far and near by express or other conveyance.

CHAPTER VIII.

ABORTIONS OR MISCARRIAGES.

Divisions of the subject—Causes of abortions—Habit of the womb, death of the foetus, detachment of the placenta, external violence, strong mental emotions, etc.—Ludicrous case of abortion produced by anger—Symptoms of threatened miscarriage—Pain and hemorrhage—How they differ from pain and hemorrhage produced by other causes—The treatment—When to save the foetus, and when to hasten its expulsion—When is it justifiable to induce miscarriages, or premature labor?—Deformities of the pelvis, retro-version of the womb, flooding during pregnancy, excessive nausea and vomiting, habitual death of the foetus, etc.—Pregnancy following rapes—Artful and wicked seductions—The civil laws—Horrible consequences of abortions produced by charlatans and patients themselves—A startling case—Advice and warning—An appeal to justice and humanity.

IN our medical literature, we find many useless, and perhaps, some unscientific divisions of the premature expulsion of the product of conception. If it occur prior to the third month, it is called, by some authors, miscarriage; if between the third and the commencement of the seventh month, an abortion; if between the seventh and before the full term, premature labor. Other authors speak of ovular abortion, if before the twentieth day; embryonic abortion, if before the fourth month; foetal abortion, if before the

seventh month. Again; it was once common to term the expulsion of the fecundated ovum before the tenth day, an *effluxion*; and if we extend the time to the next menstrual period after fecundation, there would be some reason for this latter division. For instance, a woman becomes fecund, and whether the ovum is fixed in the uterus constituting conception, or whether that act has not yet taken place, at her next monthly period she menstruates as usual, and the fecundated ovum is thrown off with the menstrual fluid, unnoticed and uncared for. This, in our opinion, is the most common form of abortion, and it may not inaptly be considered a mere effluxion.

The words *abortion* and *miscarriage* are, however, more properly employed as synonymous terms, and applied to the expulsion of the ovum at any time before the seventh month; but after that time, and before full term, its expulsion is more properly spoken of as premature labor, for the reason that the child is then viable, can breathe, and take nourishment, and, with proper care, may be matured.

Some women are *habitual* aborters; that is they abort a number of times successively. A woman is made to miscarry, especially during her first pregnancy, by some one of the causes presently to be named, and, at her second pregnancy, the womb has a disposition to expel its contents before full term, usually about the period when the first abortion occurred; and if she now abort the second time, the tendency will be still stronger in her third pregnancy; and a periodical habit of abortion is formed requiring the greatest skill on the part of the practitioner, and caution

on the part of the patient, to have the pregnancy advance to full term.

The death of the foetus is another cause of abortion not at all uncommon. The foetus in utero may be destroyed by disease, such as syphilis, small pox, etc. ; by design, or by accident ; and when dead it acts as a foreign body, irritating and exciting the muscular tissue of the womb, and giving rise to those pains and contractions of miscarriage necessary to expel it. When this occurs before the third month, the embryo, membranes, and placenta nearly always come away together and in their entirety, as the attachment of the placenta to the womb is then very slight, and easily separated ; but after that period the attachment becomes firmer and stronger, and the foetus is usually expelled first, leaving those appendages to come away by piece-meal afterwards.

When, however, the bag of waters remains entire, and the foetus continues to float in the liquor amnii, after its death, it does not readily undergo decomposition, and it may be weeks, months, or even a whole year, before the womb will take on contractions and cast it forth without the assistance of the medical art. This condition has blasted the character of many innocent females, and, therefore, we invite special attention to it in this connection. As an illustration, we will suppose a man leaves his wife, who has conceived, and goes away on a long journey, or is absent on business a few months, which is a very common occurrence of life. After the husband's absence the foetus dies, but is retained in the womb till his return, when,

under the influence of sexual excitement, the woman aborts; but not knowing that the foetus has been dead for months, it appears altogether too small to date back to the time the husband left home, and it cannot be the product of conception since his return. In such a fog of ignorance what would be the inference? Why, that the woman being unfaithful to her marriage vows, had become pregnant during her husband's absence; and without proper medical counsel, she would be compelled to remain under such censure. Such cases are no doubt quite frequent, during these exciting times of war, rapine, and murder; extreme anxiety and sudden mental emotions, as upon the receipt of bad news, being frequent causes of the death of the embryo.

The disease of the placenta, or its separation from the womb, is another frequent cause of abortions. The placenta, as we have explained in our chapter on pregnancy, is the only medium of communication between the foetus and the mother. The foetal lungs are perfectly dormant, no air is admitted to them, and no blood circulates through them to be oxydized, till the child is born and gasps for breath. But the placenta is the medium through which the blood of the foetus is renovated, the oxygen being derived from the blood of the mother. In addition, therefore, to another important function of the placenta, explained in its proper place, it is really and truly the foetal lungs, and the reader can now understand what must be the result, if it is diseased, or its attachment to the womb is destroyed. If its function is completely destroyed, the death of the foetus is just as certain as the death of an

adult if no air could be admitted to the lungs; but if its function is partially destroyed it may slowly perish, or it may possibly recover, if the injury is not very extensive.

The attachment of the placenta to the womb may be broken up by a fall or blow upon the woman's abdomen, especially if the violence be directly over the placenta, which is most likely to happen. Sudden and violent increase of the circulation of the blood in the maternal vessels will sometimes produce the same mischief. Professor Meigs says, "This happens in consequence of the increased circulation causing some drops to escape from the womb, and lodging betwixt it and the placenta, thus peeling or dissecting it off, little by little, until a sufficient superficies is removed to destroy the life of the embryo."

Violent muscular motions of the mother, which frequently take place in lifting heavy weights; in ascending stairs with heavy loads; in attempting to recover from falls; pressure made upon the womb by suddenly stooping, leaping, running, dancing, horseback riding, riding in vehicles over rough roads; all these are sufficient, in some women, to destroy the connection between the placenta and womb.

Sudden fright and violent fits of passion, as we have already intimated, will sometimes produce abortions. Many ludicrous, if not dangerous cases of this kind have come under our treatment. We were once called to a case of the following description:—

A German sales-woman in a furniture store, had some altercation with an impertinent customer, who accidentally

let a table fall and broke off one of its legs. One word followed another in quick succession, the customer making merry of the whole affair by his frequent use of *yaws* and *nichts*, till the poor woman's passion mounted so high that she no longer had control over herself, when she caught the table leg and was about to inflict condign punishment upon the customer's head and shoulders, whereupon he caught the table leg in one hand and with the other committed an indecency upon the person of the woman. This was a new provocation, and her passion rose still higher, as the thermometer rises upon the application of increased heat. As the result of this fit of passion, for there had been no external violence, labor pains and hemorrhage soon commenced, and the writer had the *honor* of conducting the case to a safe termination, which resulted in the expulsion of the foetus from the womb and the recovery of the patient.

The prominent symptoms of a threatened abortion are *pain* and *hemorrhage*. Whatever other symptoms arise during the process, these two are present in a greater or less degree. But a woman may have pain and hemorrhage from many other causes; and she may imagine herself to be threatened with miscarriage, when the indications are entirely of a different character. But the character of the pains and of the hemorrhage, and an examination per vaginam, will always enable the skillful practitioner to decide the question beyond all peradventure.

The pains of miscarriage are recurrent; that is, they are marked by distinct intervals; and they centre in the

lower part of the abdomen, and in the loins. In short, they result from the contractions of the womb, and have all the characteristics of labor pains at full term, though sometimes less distinct and prominent in some of their features. Colic pains, which are often mistaken by females themselves for the pains of abortion, lack such regularity, and are not necessarily accompanied by pains in the loins, and by hemorrhage from the womb. The pains of Dysmenorrhœa may be distinguished from those of abortion by attention to the monthly return of the former, by their occurrence prior to the menstrual discharge, and their subsidence when the discharge is well established. Again, some women, as we have shown in another part of this work, menstruate during pregnancy, especially the first months, and this might be mistaken for the hemorrhage of miscarriage; but such menstruation usually corresponds with the monthly periods; it is not profuse like the hemorrhage of abortion, nor is it accompanied with any of the usual causes of abortion.

But there may be polypus, or other tumors within the cavity of the womb, giving rise to pain and hemorrhage somewhat simulating those of miscarriage; but attention to the general history of the case, and the general health of the patient, will throw much light upon all such obscure cases; and prevent much annoyance from useless treatment. But there is little time for such investigation, when the physician is called to a case of supposed miscarriage; he is obliged to act promptly, especially if his patient is bleeding profusely. He, therefore, makes certain hasty inquiries,

and if there still remain the least presumption that the woman is aborting, he at once makes an examination per vaginam, which usually reveals the true condition of things. If abortion is really taking place, the mouth of the womb will be more or less dilated, and will feel softer than the mouth of the non-gravid womb, the membranes may be felt protruding or the foetus itself may partially protrude, or be found in the vagina.

Let us briefly notice the general indications of treatment in all cases of threatened abortion. If the physician have reason to believe that the mischief is very slight, that the placenta is not sufficiently separated from the womb to destroy the foetus, and that an effort can be made to save the life of the foetus, without, in the least, endangering the life or health of the mother, it is his duty to manage the case accordingly. And he should employ all those agents, which tend to check the uterine contractions, and to arrest the hemorrhage, as far as possible, by constricting the uterine blood-vessels. The application of cold, acetate of lead and opium, extract of belladonna, etc. etc., are useful in such cases. The patient should also be kept perfectly quiet, and in the recumbent posture. If she be plethoric, the force of circulation may be reduced by such remedies as aconite, veratrum, digitalis, etc. But if the patient be extremely nervous, such remedies must be employed as will calm and fortify the nervous system, such as the antispasmodics, nervines, etc.

But suppose it is not deemed prudent to attempt to save the foetus, what then are the indications of treatment?

Plainly to deliver as speedily as possible, and arrest the hemorrhage. For this purpose all proper means should be employed to favor the dilatation of the os uteri, to increase the contractions of the uterus, and to remove any portions of the membranes and placenta that might remain after the expulsion of the foetus. The application of cold in various ways, the use of ergot, and the tampon, are all potent agents in the hands of the intelligent physician.

A detailed description of the treatment above indicated, would occupy too much space for a popular work like the present, and could only be appreciated and properly applied in various and varying cases by the intelligent practitioner. We will, therefore, pass to the consideration of other matters connected with this subject, which are of vast importance to thousands of females, who are innocent but unfortunate, and thousands of others who are deluded, but guiltless and unsophisticated in the ways of the world.

Abortions and premature labors are frequently induced in legitimate medical practice, for the purpose of saving the health or the life of the mother, or to avoid the risks, which, in special cases, threaten the mother or the child, upon delivery at full term. And this in competent hands is a perfectly safe operation, unattended with difficulty or danger to the patient; but in ignorant hands, or when attempted by patients themselves, as we shall show before closing this chapter, the danger, as well as the obstructions and difficulties in the way of the operation is very great.

We now invite attention to some of those conditions

which justify the operation in question, and which are not, to our knowledge, systematically arranged in any other work upon the sexual system :—

1. Deformities of the pelvis! It sometimes happens through some freak of nature, that the adult female pelvis is so small, in all its dimensions, that a living child cannot pass through it into the world; but the usual deformities of the pelvis rendering the natural birth of a child impossible, are the result of diseases and injuries. Rachitis, a disease of infancy or childhood, which consists in a deficiency of earthy matter in the bones, depriving them of their natural hardness, is a very frequent cause of pelvic distortions; and, though the child recover, and have good health afterwards, the distortion necessarily remains through life. Mollities ossium, a disease of adult life, consists in softening of the bones, and may produce the same mischief. From these diseases, the superincumbent pressure of the body may jam the pelvis out of its natural dimensions, the superior or inferior opening being greatly contracted, or the whole pelvis jammed out of shape vertically, obliquely, or from side to side. Similar deformities may be produced by accidents. The young girl, whose bones are not so hard and resisting as those of an adult, may be caught between two heavy bodies, or a heavy weight may fall upon her, or in some other way, her hips may be subjected to sudden and violent pressure, and a frightful distortion produced, which, though she recover, must remain through life.

In addition to the above causes, fractures of some of the

bones of the pelvis, osseous growths within its cavity, deformities from bad cases of hip disease in childhood, etc., will sometimes interpose insuperable barriers to the birth of a living child.

Now if pregnancy is allowed to go on to full term, when any such obstacles exist, the physician, or counsel of physicians, is called upon to decide between embryotomy and the Cæsarean operation. The former consists in actually cutting the child up, and extracting it by piece-meal, a most dangerous as well as loathsome operation. This cutting and extracting operation cannot be performed through a space of less than two inches in diameter. If, therefore, the deformity is so great that this amount of space does not exist, the only alternative is the Cæsarean operation, which consists in nothing less than cutting the mother open and lifting the child out of the womb, giving the poor victim of such horrible butchery the slightest possible chance for her life; for statistics show the most melancholy results of this operation. But if the condition of the mother is known in season, or even suspected, a careful medical examination should be made, and the grave question of inducing premature labor or an early abortion decided. For if a living child cannot be born at full term, there may be sufficient space to bring it into the world alive, at the commencement of the seventh month, when, with proper care, it may be reared; and it might be the duty of the accoucheur to allow the pregnancy to go on till that time. But if the deformity is such as to make this treatment at all dangerous to the mother an early abortion is

the only alternative; and we cannot understand how a physician of moral sensibilities and sound judgment could hesitate in such a dilemma, except upon the ground that he does not feel himself competent for the delicate task before him, when, of course, he should decline the case, and recommend some one more gifted in this department of practice.

2. Retro-version of the womb! In the proper place, the reader will find a brief description of this displacement, its causes, symptoms, etc.; but we now call attention to it, in connection with miscarriages. This accident most frequently happens during the first months of pregnancy, on account of the increased weight of the organ before it attains a sufficient bulk to preclude such a position. The displacement is sometimes so great that the womb is found occupying a transverse position in the cavity of the pelvis, its fundus pressing against the lower bowel, and its neck jamming well in upon the bladder, producing the most violent and dangerous symptoms. By a judicious and persevering employment of the most efficient means, it can be repositied, in a large majority of cases, and thus being made to occupy its natural position, the pregnancy may go on to full term. But this is sometimes impossible, as the organ is constantly growing in size and may soon get wedged into its unnatural position in such a way that it must remain unless its bulk is diminished. The reader can anticipate the terrible consequences of such an abnormal condition. As the organ continues to grow the bladder may burst from the impossibility of drawing off the

water, or it may inflame and mortify, or inflammation and mortification of other soft parts within the pelvis may take place, and, of course, terminate fatally.

Now this is no fancy sketch. Thousands of women lose their lives in this way, a most horrible and distressing termination of one's brief span of existence. And what is the treatment? plainly, to arrest the development, and reduce the bulk of the child-bearing organ, by bringing on a miscarriage. This is the only relief in such extreme cases. The womb, it is true, may be provoked to take on contractions, and expel its contents, without the aid of the accoucheur, but this does not always take place, and there is great danger in waiting for such a result. Shall we, therefore, stand by and see our patients die like dogs when we have their salvation in our own hands? Without this relief, both the mother and the foetus are sacrificed to the ignorance or neglect of the medical adviser; with it, the unconscious foetus is destroyed—which must have occurred without such relief—but the mother is saved. According to the established ethics of our profession, there certainly could be no plainer indications of rational and sound practice.

Very little was known about retro-version of the womb till the year 1754, when a case was brought to the notice of Dr. William Hunter, which enabled him to demonstrate its existence, and the position of the parts concerned. Of this case Dr. Gooch makes the following statement:—"Dr. Hunter attempted to restore the uterus to its natural situation, but failed; there was obstinate constipation, and in

a few days the patient died. On examination after death the bladder was found distended, the cervix uteri was turned upwards and forwards against the symphysis pubis, and the fundus had fallen downwards and backwards into the hollow of the sacrum; where it was so impacted as to be with difficulty dislodged. This case being the first of the kind that had been noticed in this country, excited great interest. Dr. Hunter gave a public lecture on the occasion over the body of the patient, in which he recommended puncturing the membranes in order to procure abortion." We have no space for the narration of individual cases; but since Hunter's demonstration, death from this cause is very commonly reported by accoucheurs of large practice; and the question returns, shall we allow our patients to die this miserable death when it is in our power to save them?

Dr. Churchill in his excellent treatise upon this displacement uses the following language:—"Notwithstanding the evacuation of the bladder, all our efforts to replace the uterus in its usual position are sometimes unavailing, because of the bulk it has attained. This only happens with pregnant women, and especially with those in whom the retro-version continues for some time before relief is sought. In such cases we are advised to pass a sound through the os uteri in order to induce abortion, and so diminish the size of the uterus by evacuating its contents."

3. Threatened miscarriages! We have already spoken of the causes and symptoms of threatened miscarriages, also the decision of the question, whether to make an at-

tempt to save the product of conception, or to hasten its expulsion, and the treatment appropriate thereto; but we now speak of those cases where the foetus must be sacrificed, and, therefore, left entirely out of the question, and the abortion completed as rapidly as possible for the safety of the mother.

When the placenta is partially detached from the womb hemorrhage is the inevitable result; and, as a general rule, if a woman, not far advanced in pregnancy, loses the smallest amount of blood from this cause, there is a strong probability that she will miscarry. Still, cases have occurred, where women not advanced beyond the fourth month have lost many ounces, and the hemorrhage had ceased, and the pregnancy gone on to full term. Now, it is always in the power of the physician who thoroughly understands his business, to arrest the hemorrhage by means of the tampon, if within the fifth month of gestation; but when this is employed, the life of the foetus is always sacrificed. Hence, the question has arisen in medical ethics, to what extent is it justifiable to allow the hemorrhage to proceed before resorting to this means of safety to the mother, but destruction to the foetus.

The doctrine has been taught by many accoucheurs, eminent for their learning and skill, that we should wait, and hesitate, and exhaust every other means of arresting the hemorrhage, with the hope of saving the foetus, before having recourse to this certain means of saving the mother. In other words, that we must wait till we have positive assurance that the woman will die from hemorrhage before

we resort to the tampon. Now, this doctrine we protest against as dangerous and immoral in practice. Look at it for a moment. Here is a pregnant woman flooding, but she has not yet miscarried; if the physician resort to other means, or leave the case to itself, there is a slight chance, that, if the mother should recover, the foetus will be saved, but the danger to the mother is greatly enhanced; for, if she does not lose her life, she will probably lose her health, and have a feeble, sickly constitution ever after, as the result of excessive loss of blood. The physician knows he can arrest the flooding at once, and save the life of the mother by sacrificing the foetus; still he looks on and allows the blood to flow away pint after pint, speculating upon the abstract question of losing the imperfectly developed ovum. Truly, such a man has little conception of his obligations to his patient, whom he shamefully and basely betrays, because the only reasonable presumption in her mind is, that her physician will do all in his power for her health and safety; and such a man deserves to be kicked out of the profession. We speak the things we know when we state that thousands of women have lost their lives by such culpable neglect, or inexcusable ignorance on the part of their medical attendants.

Professor Meigs, in lecturing to his class upon this subject uses the following significant language:—"I am anxious to put you upon your guard upon this subject; I trust you will always act up to the principle, that you must not do evil that good may come. Whenever a clear indication for the sacrifice of the tender embryo exists, no evil

is done in procuring the greater good of the mother; on the contrary, the act by which it is destroyed, is an act in morals as purely good as the saving of a man's life. The lesser, in morals, must yield to the greater; the lesser is always included in the greater."

4. Excessive and protracted nausea and vomiting during pregnancy! In its proper place, we have spoken of morning sickness, as one of the earliest signs of pregnancy; but this is sometimes so excessive, and protracted, as to endanger the life of the mother, and the physician, or counsel of physicians, are called upon to decide the question as to the production of an abortion, or premature labor, as a means of relief and safety to the poor distressed mother.

In 1852, a spirited discussion took place in the French Academy of Medicine, embracing the question—Is it ever justifiable to produce abortion in cases of excessive vomiting? and the principal argument in the negative, was the assumption that, in some cases, pregnant women, who were supposed to be in a dying condition from excessive nausea and vomiting, have recovered, and brought forth living children. In reply to this argument, however, it is sufficient to remark that, if a pregnant woman apparently in a moribund condition from excessive vomiting, has even recovered her health, and brought into the world a living child, it was a very rare exception to a general rule, and, therefore, worthless as a principle in practice; for thousands of women have succumbed from this cause, who, in all probability, would have survived, if miscarriage had been effected.

Dr. Churchill, describing these dangerous cases of nausea and vomiting, says:—"But in some cases the patient's constitution gives way, and the results are most serious, nay, even fatal, before the completion of gestation. The patient may either die of exhaustion, or be carried off suddenly. I shall adduce some of the cases on record." He then proceeds to bring forward many distressing cases of death from this cause. Among others he states, that in the course of thirteen years, M. Dubois met with twenty cases in which the disorder proved fatal; also, that Professor Stoltz has stated his belief that death from this cause is more common than is generally supposed. Dr. Churchill then proceeds to recommend the induction of miscarriage, or premature labor, as the only safe treatment in such extreme cases.

This treatment was first recommended by Denman, and has since been advised, and to some extent practiced, by many of the most eminent men in the profession, among whom we may mention—M. Dubois, Maguire, Blundell, Robert Lee, Merriman, Ashwell, Bedford and a host of others. The following significant language, touching this question, we quote from Bedford, of the New York University:—

"I cannot, for myself, recognize any difference between the decision of this question, and multitudes of others, that are more or less constantly presenting themselves to the practitioner, while engaged in his daily rounds of duty. Where is the physician who has not, at times, been almost bewildered in his desire to decide the nice question, further

depletion or stimulation, in a case, for example, of pneumonia, or pleurisy, or typhus; knowing, at the same time, that on the correctness of his decision, must depend the life of his patient. In a case like this, after a proper exercise of his honest judgment, *looking merely at the safety of his patient*, whatever that judgment may indicate, and whatever the issue may be, I hold that the medical man has performed his duty. So, gentlemen it is, in symptomatic vomiting, endangering, if not checked, the safety of the mother. Look carefully at all the circumstances, and if, with the aid of additional counsel, you should be impressed with the conviction, that the greatest, *if not the only safety of your patient*, is in premature delivery, then, in my opinion, you would deserve rebuke, if you withhold this means of relief; for, after all, the question which you are to determine is, the simple but grave one, of life or death, and the decision has nothing to rest upon but human judgment."

5. Habitual death of the foetus! It sometimes happens that after the foetus becomes viable, and before the full term of gestation, it suddenly dies in the womb. This very often occurs during the eighth month, but sometimes one or two weeks only before the natural period of labor. We do not now speak of those cases, so commonly met with, where the death of the foetus is produced by disease inherited from the father or mother; but of those rarer cases, where the parents are both healthy, and the dead foetus, when brought into the world, shows no marks of hereditary taint. The causes of such deaths are very obscure, having defied

the investigations of the best men in the profession. We will not, therefore, occupy any space by stating any opinions of our own, or introducing the speculative theories of others, our object being merely to call attention to the fact of such deaths, and the treatment most advisable.

Some of the most eminent men in the profession have advised the induction of premature labor two or three weeks before the foetus would die if allowed to remain in the womb, with the hope of saving the child and making glad the hearts of the parents. This practice has often proved successful.

As an illustration of this whole subject, we will take a single case, which occurred in this town. Julia B., the very image of good health, married a gentleman of position who was himself perfectly free from all hereditary and constitutional disease. In due time Mrs. B. became pregnant, and at the fourth month she felt the motions of the child, which grew stronger and stronger till the middle of the eighth month, when they suddenly ceased. This indicated the death of the foetus, and when it came into the world it was found to be still-born. During her second pregnancy, she had the very best medical attendance, still the foetus died at the same stage of gestation as before. At the third pregnancy it was decided to induce premature labor with the hope of saving the child. This was done at the beginning of the eighth month; the child was brought into the world alive, and is now a healthy, sprightly lad, the pride and happiness of the family.

Thus the anxiety of parents to have an heir apparent,

and to leave their name and image in the world, has been gratified more than once. We do not say such cases are common, but they sometimes occur, and after laying all the circumstances before the parents, if it be their choice, the physician is not only justified, but morally bound to resort to this means of saving the child.

6. Pregnancy following rapes! In the days of Hippocrates, and down to a very late period, when the opinion prevailed among medical men that, in sexual connection, the woman as well as the man, had an emission of semen, accompanied with pleasurable excitement, and that the commingling of these two products constituted fecundation; the doctrine was held that impregnation could never follow a rape, because as it was said, pleasurable excitement and an emission of semen could not take place in a female struggling against the violation of her person. And this doctrine, outside of the medical profession, is entertained by most people at the present time, not as a matter of science, but simply of tradition. But the progress of physiological science has completely dissipated this notion, and it is now known that there is no emission of seminal fluid in the female, her office being, to furnish the ovum, which is slowly elaborated in the ovary, and slowly conducted through the Fallopian tubes to the uterus, or is thrown off as waste matter. It is also established, that, when an ovum is ripe and ready to be fecundated by the male spermatozoa, a connection forced against the will of the female, and, therefore, without pleasure on her part, may be followed by impregnation. Pleasure does not seem to be

necessary to fecundation, for it is well known that many married women conceive and bear children as readily as others, who never experience any pleasure in the sexual embrace. Touching this subject, Professor Bedford holds the following language :—

“ A very general opinion has prevailed, that pleasurable excitement during intercourse, is essential to a successful fecundation. This is an error, for it is well known that women, in whom intercourse is not only without the slightest voluptuous sensation, but even repugnant, become readily impregnated. The opinion that pleasure is necessary on the part of the female, has more than once been cited in courts of justice, as proofs against the purity of a woman, on whose person a rape, followed by impregnation, had been committed. This latter circumstance, however, is no proof at all either in favor of the consent, or adverse to the chastity of the female ; and it is well for you to remember the fact ; for it may be through your testimony that the scales of justice will be rightly poised, and character sustained.”

Now the question has arisen among accoucheurs, as a principle of medical ethics, independent of any civil code, whether, in a clear case of pregnancy following a rape, it would be justifiable to bring about an early abortion, as a relief to the unfortunate female, and protection against the ungenerous and unjust censure of the world. Many have taken the affirmative of this question, and others have added the unfortunate victims of wicked, artful seductions ; and their arguments, upon moral grounds, are certainly not without weight. They think there are many

circumstances of honor, character, relationship, and family connections, which might justify the physician in sacrificing the unconscious embryo, and relieving the innocent female from such a burden of death and degradation. But such a doctrine openly avowed, and carried into practice, though it might bring relief to many unfortunate but innocent females, would, perhaps, have no beneficial influence upon society at large. Besides, in all our statute books, we find laws against such practices with severe penalties attached, and it is the part of every good man, and, indeed, every prudent man, to obey the laws of the land when not in direct conflict with the plain dictates of common sense and moral principle.

But the judge upon the bench, who would rigidly interpret the law, and sternly pronounce its penalty upon any person arraigned for such an offence, would, probably, be the first to apply for the relief in question, should the misfortune visit his own household; and in this, he would act like a *man*, like a *humane* as well as a *human being*, which is a very different character from the interpreter of a stern decree, which often fails to discriminate between the really innocent and guilty.

Aside from the laws of the land, whatever the physician might feel to be his duty, in such extreme cases, he would be compelled to answer for his conduct before the tribunal of his own conscience and that of his God; and there are questions, we must confess, connected with this subject, which must severely test the moral sentiments of every *honest* physician.

The danger arising from a miscarriage, or premature labor, is often greatly exaggerated by medical men, as well as others. Women who abort, are not liable to puerperal fever—the great scourge of child-bearing, and there is little danger of inflammation of the womb, unless active drugs have been improperly employed; and as it respects flooding it cannot endanger the life or health of the patient, especially before the fifth month, when she is in the hands of a competent physician; indeed, a physician who should allow such a patient to flood so profusely as to endanger her life or health, would be guilty of a malpractice, for which he ought to suffer the severest penalty. When, however, a miscarriage is produced by a fall, a blow, a kick from a horse, or any other external violence, causing internal contusions, or rupture of blood-vessels, it is dangerous. It is also dangerous, but not to the same extent, when produced by sudden fright, or fits of passion, but in all such cases the danger arises more from the causes which produce the miscarriage than from the miscarriage itself.

But the greatest danger arises from the ridiculous intermeddling of charlatans and patients themselves. And we desire, if possible, to impress this fact upon the minds of our readers. In some of our large towns there is a sort of wholesale slaughter carried on by persons calling themselves doctors, but without medical education; and by women styling themselves female physicians, astrologists, fortune tellers, free lovers, etc.; and the most terrible consequences follow. When our readers shall have seen a tithe of those frightful things which have come under the

observation of the author, they will agree with him that these facts are of the most vital interest to thousands.

When practicing medicine in New York city we had an opportunity of learning something about the notorious Madame Restell, whose only business for years past has consisted in probing and drugging females of all classes for the purpose of producing miscarriages. Her advertisements may be found in nearly all the city papers, inviting to her rooms the high and the low, the married and the single, the innocent and the guilty; and her victims of poor health, diseases of the bladder, and distressing uterine diseases—some of whom came under our own treatment—might be counted by hundreds. This woman is not an educated physician and does not, of course, understand the nice anatomical relations and situations of the internal genital organs. Two prominent features characterize her practice—boldness and ignorance.

Professor Bedford relates a remarkable case, as the result of this woman's practice, which came under his own observation; and as it is one of great interest, and may serve as a warning to others, we shall introduce it here and then close the chapter with a few reflections by way of advice, caution, warning, etc. The following is his language:—

“December 19th, 1843. Drs. Vermeule and Holden requested me to meet them in consultation, in the case of Mrs. M., who had been in labor for twenty-four hours. On arriving at the house, I learned the following particulars from the medical gentleman: Mrs. M. was the mother

of two children, and had been suffering severely, for the last fourteen hours, from strong expulsive pains, which, however, had not caused the slightest progress in the delivery. I was likewise informed that, about four hours before I saw the case; Dr. Miner, an experienced physician, had been sent for, and, after instituting a vaginal examination, remarked to the attending physicians, that, 'in all his practice, he had never met with a similar case.' Dr. Miner suggested the administration of an anodyne, and having other professional engagements, left the house. Mrs. M. was taken in labor Monday, December 18th, at seven o'clock, P. M., and on Tuesday at seven P. M., I first saw her. Her pains were then almost constant; and such had been the severity of her suffering, that her cries for relief, as her medical attendants informed me, had attracted crowds of persons about the door. As soon as I entered her room, she exclaimed, 'For God's sake, doctor, cut me open, or I shall die; I never can be delivered without you cut me open.' I was much struck with this language, especially as I had already been informed that she had previously borne two children. At the request of the medical gentlemen, I proceeded to make an examination per vaginam, and I must confess that I was startled at what I discovered, expecting every instant, from the intensity of the contractions of the uterus, that this organ would be ruptured in some portion of its extent. I could distinctly feel a solid, resisting tumor at the superior strait, through the walls of the uterus; *but I could detect no os tincae*. In carrying my finger upward and backward toward

the cul-de-sac of the vagina, I could trace two bridles, extending from this portion of the vagina to a point of the uterus, which was quite rough and slightly elevated; this roughness was transverse in shape, but with all the caution and nicety of manipulation I could bring to bear, I found it impossible to detect any opening in the womb. In passing my finger with great care from the bridles to the rough surface, and exploring the condition of the parts with an anxious desire to afford the distressed patient prompt and effectual relief, I distinctly felt cicatrices, of which this rough surface was one.

“Here, then, was a condition of things produced by injury done to the soft parts at some previous period, resulting in the formation of cicatrices and bridles, and likewise in *the closure of the mouth of the womb*. At this stage of the examination, I knew nothing of the previous history of the patient more than I have already stated, and the first question I addressed to her was this: Have you ever had any difficulty in your previous confinements? Have you ever been delivered with instruments, etc., etc.? She distinctly replied that her previous labors had been of short duration, and that she had never been delivered with instruments, nor had she sustained any injury in consequence of her confinements. Dr. Vermeule informed me that this was literally true, for he had attended her on those occasions. This information somewhat puzzled me, for it was not in keeping with what any one might have conjectured, taking into view her actual condition, which was undoubtedly *the result of direct injury done to the parts*.

I then suggested to Drs. Vermeule and Holden the propriety of questioning the patient still more closely, with the hope of eliciting something satisfactory as to the cause of her present difficulty; remarking, at the same time, that it would be absolutely necessary to have recourse to an operation for the purpose of delivering her. On assuring her that she was in a most perilous situation, and, at the same time, promising to do all in our power to relieve her, she voluntarily made the following confession: About six weeks after becoming pregnant, she called on the notorious Madame Restell, who, learning her situation, gave her some powders with directions for use; these powders, it appears, did not produce the desired effect. She returned again to this woman, and asked her if there were no other way to make her miscarry. 'Yes,' says Madame Restell, '*I can probe you; but I must have my price for this operation.*' 'What do you probe with?' '*A piece of whalebone.*' 'Well,' observed the patient, 'I can not afford to pay your price, and I will probe myself.' She returned home, and used the whalebone several times; it produced considerable pain, followed by discharge of blood. The whole secret was now disclosed. Injuries inflicted on the mouth of the womb by these violent attempts had resulted in the circumstances as detailed above. It was evident, from the nature of this poor woman's sufferings and the expulsive character of her pains, that prompt artificial delivery was indicated.

"As the result of the case was doubtful, and it was important to have the concurrent testimony of other medical

gentlemen, and as it embodied great professional interest, I requested my friends, Drs. Detmold, Washington and Doane, to see it. They reached the house without delay, and, after examining minutely into all the facts, it was agreed that a bi-lateral section of the mouth of the womb should be made. Accordingly, without loss of time, I performed the operation in the following manner:—The patient was brought to the edge of the bed, and laced on her back. The index finger of my left hand was introduced into the vagina as far as the roughness, which I supposed to be the original seat of the *os tincae*; then a probe-pointed bistoury, the blade of which had been previously covered with a band of linen to within about four lines of its extremity, was carried along my finger until the point reached the rough surface. I succeeded in introducing the point of the instrument into the centre of this surface, and then made an incision of the left lateral portion of the *os*, and, before withdrawing the bistoury, I made the same kind of incision on the right side. I then withdrew the instrument, and in about five minutes it was evident that the head of the child made progress; the mouth of the womb dilated almost immediately, and the contractions were of the most expulsive character. There seemed, however, to be some ground for apprehension that the mouth of the uterus would not yield with sufficient readiness, and I made an incision of the posterior lip through its centre, extending the incision to within a line of the peritoneal cavity. In ten minutes from this time, Mrs. M. was delivered of a strong, full-grown child, whose boisterous cries were heard

with astonishment by the mother, and with sincere gratification by her medical friends. The expression of that woman's gratitude, in thus being preserved from what she and her friends supposed to be inevitable death, was an ample compensation for the anxiety experienced by those, who were the humble instruments of affording her relief. This patient recovered rapidly, and did not, during the whole of her convalescence, present one unpleasant symptom. It is now ten weeks since the operation, and she and her infant are in the enjoyment of excellent health. * *

"It, indeed, seems too monstrous for belief that such gross violation of the laws of both God and man should be suffered in the very heart of a community professing to be Christian, and to be governed by law and good order. Yet these facts are known to all who can read. This creature's advertisements are to be seen in most of our daily papers; there she invites the base and the guilty, the innocent and the unwary, to apply to her. She tells publicly what she can do, and, without the slightest scruple urges all to call on her who may be anxious to avoid having children. Here, then, is a premium offered for vice, to say nothing of the prodigal destruction of human life that must necessarily result from the abominations of this mercenary and heartless woman. With all the vigilance of the police of our city, and with every disposition, I am sure, on the part of the authorities to protect morals, and bring to merited punishment those who violate the sanctity of the law, this Madame Restell, as she styles herself, has as yet escaped with impunity. Occupying the position I do, and fully

appreciating the important trusts confided to my care in connection with the department over which I have the honor to preside in the University, I have felt it to be a duty I owe to the community, to the profession, and to myself, publicly to expose the facts of this case; and I fervently hope that the disclosures here made may tend to the arrest of this woman, and the infliction of the severest penalty of the law."

The above case had a happy termination, and is not, therefore, an example of the worst consequences of such practice. We introduce it, however, because it is peculiar, and because it shows the danger of inflicting severe injuries upon the genital organs, when such an operation is attempted by persons not skilled in obstetrics. Had not competent medical counsel been at hand, this patient would have died, as thousands of others die from similar causes; and the manipulations of the Restells, or other persons not educated in obstetrics, are as dangerous as those of the patients themselves, though perfectly harmless in competent hands. Let us, therefore, warn patients, whatever the causes which justify the production of miscarriage, or premature labor, never to attempt the operation themselves, nor trust themselves in the hands of any person except an obstetrician of known integrity and experience. Let us warn you to have nothing to do with the charlatans of both sexes, who swarm our country, either by purchasing their nostrums, or submitting to their manipulations; for they are destitute of moral principle, and for a few paltry dollars, do not hesitate to incur the risk

of killing their patients. No drug or medicine should be taken unless furnished by a physician of character and experience—in connection with the other necessary but harmless means—who understand modifying the violence of its action by a combination with other ingredients, so as to insure the effects without the violence or danger. Always remember that in the midst of misfortunes, temptations, and dangers, the only sure path to happiness is discretion and virtue.

Heed our admonition, we beseech thee! Thou poor victim of disease; thou unfortunate daughter of drunken parents, left without the counsel and instruction so necessary amidst the snares and devices of the world, almost driven by the sheer force of circumstances, to degradation and despair; thou, who hast struggled between poverty and virtue, and at length fallen beneath the wrongs and cruelties of society; thou, poor orphan girl, left without a father's protection, or a mother's counsel and guidance, whose lonely pillow has oft been wet with tears—heed our warning, it is for thine own good; disregard the things we lay before thee, and when thou liest upon thy dying bed, or when disease of body, and anguish of mind, fasten themselves upon thee like grappling irons, for the rest of thy life, then mayest thou think of the word of warning, we so earnestly desire to press upon thee. Merciful God! remove the scorn, the injustice, the awful retribution, society casts upon the *unfortunate*, while the *grossly wicked* are allowed to tread in the flowery paths of *refined* society.

Among the fallen are some of the noblest specimens of

men and women that ever came from the hand of the all-wise Creator; and a part of our life may be profitably spent in seeking their health, happiness and restoration. Call us an enthusiast if thou wilt; we claim to be a *Christian*. Where is thy Christianity, thou sectarian hypocrite, who strainest at a gnat, and swallowest a camel? Hast thou one particle of that compassion, forgiveness and benevolence, which the good Physician of souls manifested upon earth; and which constitutes the very soul and essence of Christianity? Thou haughty man, who peradventure, hast a loving wife to *draw* thee to thine own abode, who maketh thee to differ from other men? Circumstances! Thou proud woman reared in indolence and fashion, in the parlor, and before the glass, who maketh thee to differ from other women? Circumstances! O haughty man, O vain woman, thy position in the world, thy loving and loved companions, family relations, and friendships, are the result of circumstances, or the gifts of Providence, and thou art, after all, a thing of circumstance, changing with the wind every day thou livest. Learn, then, a lesson of humility, or true wisdom, and boast not of thy strength while the evil days come not.

CHAPTER IX.

STERILITY AND IMPOTENCE.

When justifiable to guard against pregnancy—Its practicability—Amusing humbugs—The influence of children upon parents—Interesting illustrations—Sterility in the male—How to detect it with the microscope—Causes and treatment of sterility in the male—Interesting and amusing cases—Causes of sterility in the female—Malformations, organic diseases, derangement of the menstrual function, unsuitable marriages, etc.—Unknown causes—An example—Remarks upon the treatment of sterility—Its curability—Impotence in the female—The causes and treatment—Impotence in the male common—The usual causes—Malformations, continued continence, anxiety and fear at the consummation of marriage—Sexual diseases and self-abuses the most frequent causes—Horrible consequences of seminal weakness, and impotence arising from self-abuses—Remarks upon the principles of treatment—Its curability—Important mechanical invention—Its great success.

IN the preceding chapter we have pointed out those conditions of females which necessitated the induction of early miscarriages, or premature labors. But it is much better, in such extreme cases, to guard against the occurrence of pregnancy. This would save much anxiety and sickness, to say nothing about exorbitant doctors' bills. We also find many delicate females, whose systems break down and

become prematurely old by too frequent and difficult labors, which may be another reason for limiting the number of offspring. Again, the good of society, and the prosperity and happiness of many families, who have not the means to support and educate a large number of children, demand that some limit should be placed to their increase. Now, in all such cases, the prevention of conception, as it is usually called, is a matter of science, and can be effected with little trouble, and no danger to the patient. But the habit of drugging and buying those dirty, miserable contrivances, advertised in those little catch-penny works, is a waste of time and money, and a damage to the health; for they are a cheat upon unwary and unsophisticated females, being designed merely to make money without rendering an honest equivalent.

We have looked into this subject, and have taken pains to collect a number of instruments, and even medicines, sold to prevent conception, which we have kept as monuments of the gross imposture, and deep degradation of their authors. One fellow in New York, advertises an instrument for this purpose, for which he claims French origin, and asserts that it is extensively used among French ladies, and that he is the sole agent in the United States. Now, the truth is, the French never saw such a thing, and if offered to a French lady, she would throw it at the fool's head. Another fellow in Albany, N. Y., advertises a thing, which he calls an "Electro-Preventive," and in connection with this, he reminds young people, that he can furnish them with "love powders," which will enable

them to win the "devoted affections" of any persons towards whom they may feel the promptings of "passionate attraction;" also powders which will "*make a lady tell all she knows*;" it is only necessary to drop a little upon any part of the dress. Wonderful astrologist! Reader! this is no exaggeration. The pamphlets are before us, in which these ridiculous things are advertised. Ladies are very carefully informed, that these preventives can be carried about their persons, and be ready for use at all times, and under all circumstances; as though a decent female needs a preventive every time she attends a ball or tea-party. Notwithstanding the wholesome laws, which we find in all our statute books, against such fraudulent and pernicious transactions, these things are allowed to exist, especially in Gotham and its suburbs.

Now, in regard to all such contrivances, one remark will suffice, viz.: they are vile cheats, and totally fail of the objects for which they are recommended, and no female should countenance such ridiculous things, proceeding from such vile sources.

But the object of this chapter is to describe those infirmities, which prevent the propagation of our species, and to show how we can have children, and not how it can be prevented. Children are often the source of domestic happiness, the pledge of affection, the delight and joy of parents, who look upon their physical and mental development with the utmost pride and solicitude. Without them there is a void in the domestic circle which nothing else can fill. Their innocent prattle and peevish disposition;

their trust and affection; their hate and selfishness; their thrilling laugh and hateful cry; their place at the table and place in the nursery; their increasing growth and increasing exposures and dangers; and the trouble and expense of their support and education, are all, if properly viewed, but so many drops in the cup of domestic happiness.

Parents are often concerned about the education of their children, and often speak of the ways and means to be employed for this purpose; and this is right, for the greatest results for good or evil depend upon the education, discipline, and surroundings of the young. But they seldom think of the influence which children exert in forming the habits and moulding the characters of the parents. It seems to be one great design of children and the family relationship to exert just this reflex influence—the education of the parents through their children. From them they derive constant lessons of trust, faith, patience, forbearance, forgiveness, generosity, economy, and industry, the most important lessons of life.

One of the best examples of the influence of children upon parents, is seen in the familiar speech of the family. In his lectures on language, Max Miller has shown that the common people, who think least, form the great bulk of a language. Their modes of speech and pronunciation are incorporated and embedded in the idioms, phrases, newly coined words, and growth of a language, more completely than those of the most educated and refined classes. But the influence which children exert in forming the language of the family circle is practical, and still more

efficient. Words work their way upwards from the lower to the higher degrees of intelligence far more frequently than persons generally suppose, just as water is boiled by putting the fire under and not above the fluid, taking advantage of the law by which heated fluids become lighter and rise to the top, carrying up the heat with them. The effort of a parent to communicate ideas to his child leads him to simplify his language as much as possible, and there are multitudes of words and phrases in every language that have grown out of such necessity.

A great change is produced in the relations of husband and wife to the rest of the world, and to each other, through the influence of their children. In the birth of their first child there comes an inspiration, which is one of the greatest experiences of life; the great Author of existence seeming to say to them as the daughter of Pharaoh said to the mother of Moses, "Take this child and nurse it for me, and I will give thee wages." It gives to the life of those parents a new and higher impulse and ambition. The education of the children gradually unites them in a new and higher wedlock, a oneness of purpose out of which arises a new train of duties and relations towards each other, and towards the world, and all are moulded and conformed to the interest and happiness of the family circle. All the cares and anxieties which children give in their infancy and youth, all the pains and diseases they suffer are in reality the processes of a broad, generous system of education, through which parents are instructed and disciplined for the great work of life.

We need children to grow up and settle around us as a comfort and solace in our declining years. How lonely, and dreary, and sorrow-stricken must be the old man, and the old woman, when infirmity and sickness come upon them, if they are deprived of the affection and kind offices of children and grandchildren? However pleasantly situated in other respects, if these are lacking, their condition must be sad and melancholy. We go out of the world by nearly the same changes as we came into it. We begin as children, we grow up to manhood, and, at length, we decline and again become childlike. We return to the same weak and helpless condition as we were at first; and we have need of the same generous and tender offices we once bestowed upon our children; and how wise the arrangement; our children now take pleasure in repaying that kindness. This is the work of natural affection and relationship. Beasts, birds, and fishes render no such services to their old and decrepid; the old decaying oak is not benefited by such an arrangement, but it stands alone unsupported by others, a venerable monument of the mutability of all things earthly.

Sterility is, therefore, the greatest earthly misfortune to persons who possess the means properly to support and educate children. Nothing else can fill this void in one's existence. Wealth cannot atone for it; and the adoption of other children is a poor subterfuge. We have seen a lady of refinement burst into tears at the sight of a chubby boy born of a beggar woman, as though the ability to propagate one's species were denied the more wealthy and

refined, while the poorer classes bring forth in safety and rear a hardy brood. This difference, however, would not exist were the immutable laws of our being better understood and more closely observed.

In addition to the instinct connected with the propagation of our species, the foregoing are some of the reasons why people should bring into the world and rear offspring.

Let us, therefore, proceed to notice some of the causes and conditions of sterility and impotence, and also some of the principles of treatment.

Sterility in the male is a very uncommon condition, except it be the result of impotence; still it exists, and, therefore, should receive a passing notice. Sterility usually belongs to females, and impotence to males, as we shall show in its proper place; but these conditions are sometimes reversed, that is, a man, who is perfectly competent to perform the sexual act, may be unable to propagate his species; and conditions may exist on the part of the woman to prevent sexual contact, who would otherwise be fruitful.

In modern times, the microscope has revealed wonders upon this as well as other subjects; and is the means by which we now decide the question of sterility in the male. It is now known, as we have explained in our chapter on the male genital organs, that the spermatozoa is the vital principle of the seminal fluid; if, therefore, we take a little of this fluid and place it under a microscope of the proper power, and the spermatozoa are seen to be without motion, or if they are absent, we know the man cannot beget a

child; but if their motions are brisk, indicating that they are alive, healthy, and vigorous, we know the man is fruitful. There is, however, a third condition. The spermatozoa may be in motion, but their motions may be very sluggish, as though they were very feeble and half dead, in which case pregnancy may possibly take place, but the offspring are apt to be puny and sickly, and to die in the cradle or before reaching maturity.

This is not mere supposition, but demonstration; we actually see these things, and we know their results, and thus many physiological facts belonging to the sexual system are clearly explained, which, otherwise, must have remained mysterious. And in addition to the importance of such knowledge, enabling us to decide the question of sterility in the male, and to devise and direct a scientific course of treatment, the following brief incident is a good illustration of its possible uses in other respects:—

Some years ago a distinguished practitioner in another country, now passed from this stage of action, had a patient of position and wealth, whose semen he had examined from time to time, finding him perfectly sterile, though fully capable of performing the sexual act. This man had the indiscretion of forming a sort of irregular conjugal alliance with a sprightly young widow, who, to every outward appearance, was very charming and very respectable. Time passed, and this charming creature became pregnant, and according to the processes of natural law, a living child was born into the world, and the sterile patient was the victim charged as being the father, and proceedings were

being entered by way of fleecing him pretty heavily for the support of the young defendant; but the doctor being called upon to use his influence, and not having a conscience to decline the responsibility, soon convinced the woman herself, and all others concerned, that the child must have been sired by some more spermatozoic man; and here the matter rested, and the patient was saved the injustice of supporting another man's child.

Sterility in the male, whose semen is in a healthy condition, and who is capable of performing the sexual act, may be produced by stricture of the urethra, preventing the ejaculation of the semen into the vagina. In such cases the semen remains behind the stricture, slowly to dribble away, or to be brought away with the urine afterwards; or, as sometimes happens to be thrown backwards into the bladder by a spasmodic action of the urethra behind the stricture. The only efficient treatment in such cases will suggest itself to the mind of any person, viz., the cure of the stricture, which requires all the careful manipulations and skill of the experienced practitioner.

Such sterility may also arise from a malformation of the penis known as hypospadia, in which the urethra, instead of opening at the end of the penis, terminates underneath at its base, through which the urine and semen must escape. Such a man must be sterile, though capable of sexual intercourse, because the semen escapes outside of the vagina. A patient of this description, anxious to have children, once consulted the celebrated John Hunter, who advised him to catch the semen in a syringe and squirt it

into his wife's vagina. The advice was followed, and it is stated that the woman became pregnant, and, in due time, gave birth to a child; but we cannot ourselves vouch for any striking resemblance between the child and its reputed papa.

A man who is impotent, as we have before intimated, is necessarily sterile, from whatever causes his impotence arises. Though his semen be in a normal condition, he cannot beget children, because he cannot have sexual intercourse, and his barrenness must, therefore, continue as long as the impotence continues, the only treatment being the cure of the impotence. But more upon this subject presently when we come to treat of this latter infirmity. The same thing may be said of the female; any obstruction on her part, which prevents intercourse, is, of course, a certain cause of sterility, while it remains. In addition to this cause, to be noticed more fully in its proper place, the general conditions of sterility in the female may be enumerated as follows:—

Malformations, organic and functional diseases of the genital organs, derangement of the general system, unsuitable unions, and unknown causes. Let us direct our attention briefly to these conditions:

1. MALFORMATIONS! The womb and the ovaries may be absent, or they may be but partially developed, or there may be some defect in their structure or formation, entirely precluding any manifestation of the generative function, though there may be no obstruction to the mere act of coition. As an evidence of some such condition, we

wish especially to call attention to the menstrual function. This discharge comes from the cavity of the womb, and is intimately connected with the action of the ovaries, which is proved by the extirpation of the ovaries for the cure of diseases, and by experiments upon the lower animals. If both ovaries are removed in the lower animals they cease to breed; if they are removed in women they not only cease to breed but they cease to menstruate. If, therefore, a woman has never menstruated there is, probably, an absence of the womb or ovaries, or they are defective in development, or so deformed as to render the female hopelessly barren. But if she ever did menstruate, though it were but once, it shows that these organs are sufficiently developed to take on generative action, and the sterility may be susceptible of cure under skillful treatment, carefully looking to all the circumstances of the case.

2. ORGANIC AND FUNCTIONAL DISEASES! Tumors within the cavity of the womb, the most common of which is polypus; tumors of the ovaries and ovarian dropsy; congestions, inflammations, and ulcerations of the womb; occlusion of the Fallopian tubes from inflammatory action; and stricture of the neck of the womb, usually at the internal os uteri, are some of the organic diseases, which, at times, render a female barren. Some of these, in proper hands, are perfectly curable, others not so. Barrenness depending upon stricture of the neck of the womb has never, so far as our experience goes, resisted the appropriate treatment. A habit of miscarriages, pointed out in our chapter on abortions and miscarriages, is a very com-

mon cause of barrenness, almost always curable by skillful treatment. Any derangement of the menstrual function, such as dysmenorrhœa or painful menstruation, menorrhagia or profuse menstruation, amenorrhœa or the suppression or absence of the menses. Leucorrhœal discharges, or the whites, will sometimes prevent conception during their continuance. Many women, however, readily become pregnant when suffering from one or more of these disorders. They are all curable under proper treatment. Displacements of the womb, such as we have described in another chapter, are frequent causes of sterility, but not always, for some women will readily conceive with considerable displacement of this organ, especially prolapsus uteri. The treatment of sterility arising from this cause consists, of course, in the cure or relief of the displacement.

A viciated condition of the reproductive system producing sterility, may arise from diseases of the general system, such as constitutional syphilis, scrofula, anæmia, nervous prostration, etc. Obesity is a common cause of sterility, hence we find that women who grow fat are often barren. The relation between the ovaries and fatty tissue is so intimate that the healthy action of the former is often greatly impaired by the excessive accumulation of the latter. Fat women are, therefore, poor breeders. But such sterility is usually curable under a judicious plan of general and local treatment. Fortunately we are possessed of remedial agents, which act directly upon the reproductive system, arousing into action the ovaries, and causing them to furnish the ovum or female germ. Such

agents judiciously but not rashly employed, in connection with the general treatment, will usually effect the object desired.

3. Unsuitable unions! These sometimes give rise to such strong moral aversion between the parties as to render them perfectly sterile. And this is not much to be regretted, as the children of such parents are not apt to grow up an ornament to themselves or to society, though we find some exceptions. It often happens that a man and wife, though perfectly capable of sexual congress, are barren towards each other, both of whom become fruitful upon being divorced and united to more suitable companions. This, of course, we do not lay down as a general principle, for we have already shown that pregnancy may even follow a rape, but as a rare cause of sterility it is worthy of note in this connection. Such moral aversion between married parties as disgust, contempt, hatred, and a vehement desire to be released from each other and to be united to other persons supposed to be more suitable, especially in the higher walks of society, may be laid down as one of the causes of sterility. Many persons of position, wealth, and refinement have sought to be released from their matrimonial engagements upon this ground; and upon being united with more suitable companions have been as fruitful as other people. A few of these cases have come under our own observation, and a great many more are on record, but nearly all of them are unexposed on account of the delicacy and disgrace which accompany them.

We cannot dwell long upon this point, but will introduce a notorious case as an example. It occurred in France, in 1654. The Marquis of Lanquey, aged twenty-five years, married a lady between thirteen and fourteen years of age. They lived happily as man and wife for four years; and a short absence from home, induced the marchioness to express great anxiety and tenderness of affection for the return of the marquis. Soon after this the artful wife accused the husband of impotence, and declared herself a virgin. The marquis was piqued at this, and demanded the custom then sanctioned by the laws of his country, viz., a trial by congress, as it was called. The judge ordered it; the lady appealed, but the decree was confirmed, and there was no other alternative. Hence, a jury of five physicians, five surgeons, and five matrons was empaneled to see the act of congress performed, and to report. They filled their report with the most ludicrous and obscene details, not fit to be named here, and they gave their decision against the marquis. The marriage was, therefore, declared void, and the husband was decreed to pay all costs, return the fortune he had received from his wife, and not to marry again. But the marquis submitted a legal protest against the decision that he was impotent, and declared his intention to marry another woman. In short, the lady married another man by whom she had three children, and the marquis married again and had seven children.

This lady, upon her death bed, acknowledged that her husband had not been impotent, but that she wished to have the marriage annulled, and resorted to a ludicrous

stratagem for the purpose. This was not, therefore, a case of impotence, but one of sterility between persons, both of whom became fruitful when united to more suitable companions. It is, of course, difficult, in any particular case, to determine before-hand whether sterility depend upon any such moral aversion; but a treatment altogether different from that resorted to above may be equally efficient, and more direct, if not more scientific.

4. UNKNOWN AND UNCERTAIN CAUSES OF STERILITY! General practitioners are seldom consulted in cases of sterility, as there is a prevalent opinion among the people confirmed by the stupidity of such practitioners that this infirmity is usually incurable. But the physician who gains a reputation for its cure will often be consulted by sterile women in whom he will be unable, after the most careful and minute investigation, to satisfy himself as to the condition on which the sterility depends. He knows there is some deranged action, or want of proper action of the reproductive system, but the nature of this derangement and the causes which produced it may be entirely hidden from the scrutiny of the greatest expert in this department of practice. We wish to call special attention to this subject, as it seems to be entirely ignored in our text books upon obstetrics, their authors taking it for granted that every case of sterility may be traced to its legitimate cause, which is a great error. That some cause exists, or has existed, is most obvious, but the idea that it is always in the power of man to search out that cause

is a hasty and blundering conclusion, not warranted by experience.

We have been consulted by many such patients. Take a case as an example. Mrs. B. of New York has made us a visit complaining that she is childless, or that she has become barren, before that period of life when women cease to menstruate and to bear children. Her husband is a middle-aged man in good health, and she has no reason to doubt his entire ability to procreate his species, and they are both anxious to have,

“A baby in the cradle, a well-spring of pleasure.”

Upon an examination of this patient, we find that she is not excessively fat, nor of a feeble relaxed tissue, but that her general health, in every respect, is in a good condition. We satisfy ourselves that there are no tumors or other abnormal growths of the womb or ovaries, no congestions, inflammations, or ulcerations of those organs. And as the husband's desire to have a child to lead about, to idolize, to chasten, and to inherit his property knows no bounds, he requests us, as he expresses it, to give his wife a thorough overhauling, to see what there is to be set at rights. We, therefore, carry this examination further than is usually necessary; we introduce the speculum to see if there is any disease of the vagina, or mouth of the womb; but in this case we find them in a perfectly normal condition; we also introduce a silver sound into the womb, but we find no obstruction to the ingress of the spermatic fluid.

Here, then, is a sterile female, in whom the most careful and thorough examination fails to reveal the condition on which the sterility depends; and the physician inexperienced in this branch of practice would, at once, jump at the conclusion that the sterility must depend upon an occlusion of the Fallopian tubes—something entirely hidden from our inspection during the life of the patient—but in this conclusion he would be in error ninety-nine times in a hundred; for such a cause, though it sometimes exists, is exceedingly rare, while the sterility we are describing is very common; moreover, the occlusion of the Fallopian tubes is permanent and cannot be cured, but sterility depending upon some unknown cause, such as we have described, is usually curable, which the records of our practice fully attest.

A few additional words as to the treatment of sterility! We have for years past been engaged more or less in the investigation and treatment of the diseases and infirmities of the sexual system, and with the exception of some rare cases depending upon malformations, etc., we can give the reader the fullest assurance that sterility is perfectly curable. In most cases we can treat this infirmity successfully without a personal interview. We have furnished correspondence to and fro for years, and many persons unable to make us a personal visit have succeeded in attaining the object desired. Our remedies can always be sent by express, and sometimes by mail, to distant portions of the country.

Persons addressing us by letter should carefully read

over our description of this infirmity, and, without attempting the use of technicalities, give us all the information possible as to their real condition, viz.: the condition of their general system, healthy or unhealthy, fat or feeble; also the age, general health, etc. of the husband; the condition of the menstrual function, and the existence of any diseases of the sexual organs that may be known to the patient; whether she has ever borne a child, has ever miscarried or suffered injury from difficult or artificial delivery. Upon the receipt of such letters we elicit other facts, if necessary, by a future correspondence, and furnish a treatment appropriate to the case.

It is not our purpose in writing this book to supercede our usefulness to ourselves by attempting to point out how such patients can treat themselves; for this would be a useless task. Nor is it our intention to reveal, in full, our treatment to the profession. The idea which seems to prevail that a physician, whose incessant labors has developed something new and useful in medicine, is bound to make it known to the profession or to the world without reaping any advantage from it himself is too frivolous to merit attention. He is bound to do no such thing: it is simply a matter of choice. In time, it is true, all useful discoveries in medicine are made known to the profession, and incorporated into its literature. In this way the profession moves. But the motive is one of selfishness—the love of honor and position, if not of pecuniary gain, being the incentive. We, therefore, influenced by the common motives of humanity, offer our treatment upon fair and

reasonable terms, which is as fair and honest as could be desired.

Let us now pass to consider another infirmity of the sexual system, to which we have already made frequent reference, and which, in some respects, is intimately connected with the foregoing, viz.:—

IMPOTENCE! Any incapacity for sexual congress is that condition of the sexual organs known as impotence; and we shall proceed briefly to notice some of the causes and conditions of this infirmity; also our plan of treatment, consisting in part of the use of a mechanical invention.

Impotence in females! We have already shown that sterility is very rare in males, but very common in females. Impotence, on the contrary, is very common in males, but very unfrequent in females; but it sometimes exists in females, and, therefore, we will give it a passing notice. It may depend upon any kind of malformations, obstructions, or diseases preventing the sexual approach. An imperforate hymen, and a hymen so tough and rigid as to prevent all attempts at intercourse, are the most common conditions of impotence in the female. The remedy for this is very simple when entrusted to proper hands. For further information upon this subject the reader is referred to our description of the hymen in our chapter on the female genital organs. We have also given an interesting case of the rigid contraction of the orifice of the vagina, which rendered a woman impotent for three years, but which readily yielded to the appropriate treatment. A vicious deformity of the female sexual organs known as

hermaphroditism will usually prevent sexual contact. This consists of an enlarged clitoris resembling a boy's penis, and the adhesion of the labia, or an imperforate hymen, obstructing the passage to the vagina; and an operation consisting of the removal of the clitoris, and making an opening into the vagina, has, at once, converted a person supposed to be a man, or half man and half woman, into a true woman, demanding the exchange of pants for petticoats. Impotence arising from any of these causes is, therefore, perfectly curable. But when it depends upon the absence of the vagina, or when this organ is very imperfectly and slightly developed, it is, of course, incurable. Such cases are fortunately very rare; we have never seen but two; in one there was an imperforate hymen. Upon making an opening through it we found the vagina so small that it could hardly admit one inch of our little finger.

Impotence in the male may depend upon various conditions, such as malformations, long continued continence, mental emotions, sexual abuses, and diseases of various kinds, etc.

1. Malformations! The absence of the testes or of the penis, or their deficient development, or their destruction by accidents or diseases, may be set down as irremediable causes of impotence. It sometimes happens, however, that the testes are fully formed and retained in the abdomen, never descending into the scrotum, the presumption being that such a person has no testicles, and cannot, therefore, procreate his species. But he may be just as compe-

tent as though the testicles had descended into the scrotum. Moreover, if there is a congenital absence of one testicle, or if one has been lost by accident or disease—the other, or even a portion of the other being in a sound condition—it may not interfere materially with the ability to copulate, and also to generate the species. We have known a man with the absence of one testicle, the other not being one third the usual size, to become the father of a number of children the very image of their papa.

But deformities of the sexual organs rendering men impotent are exceedingly rare. In ten thousand cases of impotence we should not be likely to find more than one or two depending upon such causes. We will not, therefore, dwell upon them.

2. Continued continence! That perfect continence continued for a long time after attaining full manhood, will sometimes render a person impotent, we have the fullest evidence. At first thought, this statement might not seem reasonable, as continence is the very opposite of sexual excess, which we know to be a fruitful cause of impotence. But both extremes are bad, and work degradation to the sexual system. The same physiological principle applies to every organ and part of the body. Exclude a person from the light for a long time and the eyes become shrunk, the optic nerve more or less paralyzed, and the power of vision partially or totally destroyed; for light is the natural stimulus of the eyes. Fishes excluded from the light for ages, as in the great cave of Kentucky, entirely lose their eyes. Being de-

prived of their natural stimulus, they become atrophied ; till there is not the vestige of an eye left. Put the arm in splints and continue it there for a sufficient length of time, and it will waste away and become paralytic, because it is deprived of the stimulus of exercise ; so the arm of the blacksmith becomes larger and stronger by exercise. Now the sexual organs are not excluded from the effects of this general law. Deprive them of their peculiar stimulus for a long time and they will shrink in bulk, become flaccid, and there will be a partial or total loss of sexual power.

Religious fanatics, who undertake to trample under foot the commands of Jehovah—for his commands are revealed in his laws—and eschew marriage under the monstrous assumption that it is inconsistent with their spiritual duties, do not escape with impunity ; for, in addition to the perversion of heart and intellect, which such a violation of physical law is sure to produce, they not unfrequently find themselves totally impotent, if they wish at any time to change their relations towards this wicked world. Such cases, however, are perfectly curable unless confirmed by poor health and old age.

3. Impotence may arise from mental aberrations, and emotions, such as fear, hate, love of anticipated pleasure, absence of mind, etc. It often happens that extreme anxiety connected with the anticipated consummation of marriage, the fear of not finding everything right, or of not acquitting himself with decorum, will prostrate all sexual power in the young married man : and we have seen older men in the same unhappy condition

upon their first or second marriage. This is a vexatious and mortifying predicament, but it is curable. Many such patients have visited our office, so agitated and alarmed about themselves, that they could hardly keep quiet long enough to relate their misfortunes. Our treatment, in these cases, is always effectual. We give a preparation consisting of a few remedial agents, which act directly upon the sexual organs, and such directions as the nature of the case requires, and the patient speedily finds himself possessed of his usual vigor. These cases do not always speedily cure themselves, as some writers seem to intimate; for, without treatment, they have been known to continue for months or years, or to become obstinately confirmed for life.

We sometimes meet with men who are impotent towards their wives though not towards other women, not as the result of any want of physical adaptation, but the want of affection, or the possession of some moral unfitness partaking of the character of a mere brutal passion. One of our patients confessed his inability to complete sexual intercourse with his wife, unless, by an effort of the fancy, he held in his imagination the form of some more voluptuous female.

Any person, however vigorous in his physical capacity, who anticipates sexual intercourse with too intense eagerness and delight, will seldom perform the act with decency. Many libertines have confessed, that after waiting and seeking an opportunity from time to time, when it, at length, arrived they had no power to take advantage of it.

A nervous anxiety completely prostrated all sexual power, and the anticipated victim was saved from ruin. This, therefore, has its wise ordinance.

If the imagination wander from the task, temporary impotence may be the result, and many authors are of the opinion that impregnation may be impeded from the presence of ideas which interfere with the proper performance of the generative act. Sterne has commented on this point when he introduces his maternal parent as asking *at a most untimely moment*, whether his "father had not forgotten to wind up the clock." His views are strictly physiological; such is the power of the moral over the physical condition of man.

4. Sexual abuses! In some of their forms sexual abuses are by far the most common causes of impotence in the male. Judging from our own practice, we should think nineteen twentieths of all such disorders arise from these pernicious causes. All the causes of spermatorrhœa or seminal weakness—to be described in the next chapter—are, therefore, fruitful causes of impotence: indeed impotence itself is but another step in the downward course of a patient laboring under involuntary seminal losses. If, therefore, this infirmity is not arrested by a judicious and persevering course of treatment, it is sure to run on to the total prostration of all sexual power; for, unlike many other diseases, it never cures itself. The best authorities are unanimous upon this subject, and, if possible, we desire more indelibly to impress this fact upon the minds of our readers. Though perfectly curable by an enlightened

course of treatment, if left to itself spermatorrhœa never gets well, but ends in total impotence.

We, therefore, urge the reader, who has the least occasion for apprehension, to give the succeeding chapter a careful perusal, especially that portion of it which sets forth the chief causes of spermatorrhœa, such as sexual excesses exhausting the virile powers; venereal diseases, viz. : claps followed by gleans, strictures, irritable bladder, etc. ; and syphilis followed by constitutional symptoms, such as cutaneous eruptions, foul ulcers, pains in the bones, etc. ; and that unnatural, filthy, and destructive habit, which we cannot too severely stigmatize, known as masturbation.

There is nothing more deplorable and humiliating to a man of sense and pride of character than to become partially or totally impotent, especially if produced by sexual abuses, for in this case a keen sense of self-destruction, and mental agony, is superadded to bodily infirmity ; and there is nothing more disgusting and contemptible to an affectionate, well-formed woman with whom he may be united in matrimony. Can it be supposed that the sympathies and physical powers of a beautiful woman are in unison with those of a man whose best energies were long ago expended in lawless sexual excitement, and vicious sexual abuses ? whose youth has been a hurried history of wild and reckless enjoyment ; whose faculties have been lashed past the natural powers of endurance, and who now brings his decrepid efforts, as a worthless offering at the shrine of matrimonial sanctity ? Is there a mockery more

deep, more bitter, than that desolation of spirit which an affectionate woman must feel on finding that she is united to a mere wreck of sensualism, the horrible victim of self-pollution? Woman's scorn must be intensified from the nature of her position, because she is precluded from giving vent to her feelings of anger and vexation. Love cannot be reciprocal in such cases; animal impulse prefers that which is more accordant with itself; even beasts prefer males possessed of vigor, power, and beauty; and this instinct is implanted by nature in the genus homo; and whatever changes in our feelings and manners civilization may effect, it cannot extinguish this instinct.

A gentleman of high connections, and apparently possessed of every requisite to make life happy, was unexpectedly found dead in his bed; a pistol, the instrument of his death, was clenched in his hand; none being able to account for the rash act, and, doubtless, but for his own revelation it would have remained for ever a secret. Upon a piece of paper, in his own hand-writing, were discovered these words, "I am impotent and unfit to live." Scarce a day passes that deaths by suicide are not recorded, where no cause can be assigned for the deed, many of which, could we explore the secrets of the dead, we are inclined to believe would be placed in the category of sexual infirmities and diseases.

An opinion generally prevails, confirmed by the careless statements of some authors, who have had little experience in this department of medicine, that it is perfectly natural for a man to become impotent about the age of sixty,

which is a very great mistake. Impotence at this period of life, or at any time previous, is not a natural condition, but depends upon some vicious cause, such as poor health, organic diseases of the genital organs, or sexual abuses of various kinds; and they are usually curable, unless the constitution is absolutely broken down. In females, it is true, the child-bearing period is limited to about the forty-fifth or sixth year of age, and seldom goes much beyond; but there is no such limit fixed to man's generative powers. His powers depend altogether upon his general health, the integrity of his generative organs, or, if infirm, the invigorating and alterative treatment which he may be placed under. Men sometimes become fathers when they are eighty, ninety, or even a hundred years of age. Wm. Parr begot a child when he was a hundred and thirty years old, and lived to be a hundred and fifty. This, of course, is a remarkable case; neither is it common for men to become parents at eighty, ninety, or a hundred years of age; but such things occur often enough to show that the limit is not fixed by the number of years that a man has lived. But it is by no means uncommon for men to become fathers at the age of seventy and seventy-five. Information has just come to our knowledge of a man whom we have known from our childhood marrying the second time at seventy, and becoming a father at about seventy-one.

By a judicious and persevering use of the treatment we now possess for the restoration and perpetuation of the sexual powers, a man may retain his capability, if moderately employed, to an advanced age—and every man ad-

vanced in years should have the decency and discretion to employ his sexual powers with moderation. This treatment consists, for the most part, of tonic and alterative remedies, calculated to invigorate and strengthen the general system, and remedies which act directly upon the sexual organs, together with the employment of a

MECHANICAL INVENTION, which we shall now explain. But first a few words upon the structures of the organ to which the instrument is applied, and the phenomena of erection. The penis is abundantly supplied with arteries, veins, absorbents, lymphatics, nerves, and a cellulo-vascular structure, which is the erectile tissue peculiar to the genital organs. The reader will, therefore, perceive that this organ is composed of very loose structures, and capable of considerable expansion. Now a lascivious impression made upon the mind by the irritating effects of the seminal fluid in the seminal vesicles, by friction of the external organs, or any other cause whatsoever, is, at once, transmitted through that wonderful mechanism, the reflex nervous system, to the nerves which supply the organ; and this nervous force, accompanied by the peculiar lascivious sensation, causes the organ to expand, and as the expansion takes place, the blood rushes into all its structures, till the vessels are completely filled, and we have the enlargement and rigidity known by the term *erection*. If, therefore, this nervous vigor be wanting, the organ does not expand, and no blood flows to the part, except as it flows to any other part for the purpose of nutrition, and we have that condition which we call impotence.

Again: The flow of blood to the organ, in the frequency and quantity nature intended, not only depends upon the nervous action, but the perpetuation of the nervous action itself, and its restoration when lost, depends, in a very great measure, upon the presence of the blood; for it is well known, that this fluid is a natural and healthful stimulus of the nerves which supply the organ. If, then, we could devise some means to produce an occasional flow of blood to the organ, we should certainly gain a most important acquisition to our treatment of impotence. Reasoning thus, we come to the conclusion that a small air pump could be constructed that would accomplish the very object desired. Upon making inquiry, however, we were informed—with how much truth we will not pretend to say—that a certain transatlantic surgeon had hit upon the same thing, and that its use, in his hands, gave the highest degree of satisfaction. If this be true, we cannot claim the origin of this invention; but we think no one will deny us the credit of having brought it to its present state of convenience, utility, and perfection, as we now have them manufactured.

This instrument consists of a *receiver* and *exhauster*. The receiver is made of flint glass of the clearest and strongest quality, so as to sustain accidental falls and blows without breaking. It is a little expanded at the bottom and worked very smooth, and at the top it is rounded and pierced with a hole, over which a valve is very accurately and firmly fastened, allowing the air to escape but not to enter. The exhauster is made of drawn metal, and the

sucker and piston are so well constructed that they never get out of order.

Now let us work the instrument! Place the glass receiver over the organ, in such a manner that it will rest air tight upon the surrounding parts. There will be no trouble in doing this properly if no bunches of hair are allowed to get under the glass, and if the parts are moistened with a little water. Now moisten the lower part of the exhauster, and place it over the top of the glass, and take the knob of the piston between the thumb and finger and work it up and down. Every stroke, of course, expels a small quantity of air, and its movements are so accurate, smooth, and easy, that you have no trouble in obtaining the precise amount of exhaustion that you may need. As the air is expelled, the organ expands, and the blood flows into all its structures upon the well known principle of atmospheric pressure, or as it is usually called, SUCTION. The same principle is illustrated in the action of the common water pump, in sucking fluids through tubes, and in the infant sucking milk from the breast of the mother.

The glass receiver is large enough to allow of considerable empty space above and at the sides when the organ is fully erected; but the exhauster is small, not being more than half the length of the glass, as nothing could be gained by having it longer, its present size being most convenient. The instrument can now be used for the purpose of a small air pump, in experiments, amusements, etc. Any amount of force not over fifteen pounds to a square inch can be produced by the suction, a small part of which

being sufficient in its application for the treatment of impotence.

The reader is now prepared to understand the great advantage of this instrument in the treatment of partial or total loss of sexual power. The blood is made to flow to the organ, which is its natural and healthful stimulus, and greatly restores the health and vigor of the nerves which supply the organ; also the occasional and gentle exercise of the organ with this instrument tends greatly to increase and perpetuate the vigor and healthful sensibility of all the structures which enter into its composition. It produces some enlargement, but as there is always some atrophy, or wasting away of the organ in sexual debility, this is an additional recommendation. It is also proper to state that dame nature, sometimes indulging in freaks, denies to certain individuals the normal amount of development, which may be compensated for by this invention. This is done upon the same principle that the nipple is drawn out and enlarged by the action of a breast-pump or the infant's mouth—an actual enlargement of one third or one half being produced. But it should always be used with great gentleness, and the rigidity should never be forced beyond its natural hardness; and should not be continued long at any one time; thus used no possible disadvantage can arise from it.

We made known this treatment to the profession a few years since in a book entitled, *New Medical Revelations*, after which we often received solicitations from physicians and others to furnish the instrument for them;

and hence we have had them manufactured and now keep them on hand to supply such orders. They are put up in neat boxes without the danger of exposure, and are sent to any part of the country by express on receipt of ten dollars now the price of the instrument.

CHAPTER X.

UNNATURAL SEMINAL EMISSIONS.

Seminal weakness and self-pollution—Emissions during sleep—Those produced by defecation and urination—Those occurring slowly and almost constantly—Detected by the microscope—Their destructive effects upon the system—Impotency, atrophy, etc.—Imbecility, insanity, epilepsy, paralysis, consumption, etc.—Startling description of Hufeland—Causes of seminal weakness—Sexual excesses, gonorrhœal and gleet discharges, masturbation, etc., etc.—Interesting case of treatment—What is masturbation?—How to protect the young from such horrible pollutions—Its destructive effects upon the mind and body—Quotation from the Rev. Dr. Adam Clarke—Quotation from Hippocrates—Priapism, atrophy, and insensibility of the organ—Disgusting and dangerous means to produce erotic sensations—Startling account of the inn-keeper—The disgusting and horrible practices of Gabriel Gallien the shepherd of Languedoc—Remarks upon the treatment of seminal weakness and masturbation.

UNNATURAL seminal emissions may be divided into the voluntary and involuntary. The former relate to those which are produced by some artificial and unnatural means, in conjunction with an overstrained effort of the will, and known by the terms masturbation, self-pollution, etc., to be fully explained in the second part of this chapter. The latter relate to those which take place without the concur-

rence of the will, or in opposition to the volition of the patient; and hence they are spoken of as involuntary seminal emissions. The technical term for this infirmity is spermatorrhœa, signifying the running away of the spermatic fluid. It is also known by the term seminal weakness, and is spoken of by other language readily understood by the connection in which it is found.

Seminal weakness is a very common and very dangerous disorder. It may exist in some of its forms for months, or even years, without the knowledge or suspicion of the patient, sapping away the foundations of health and bringing in its train some of the most painful and deadly infirmities known to man. In this we find its greatest danger.

For the purposes of description we shall divide the symptoms of this disorder into the *local* and *constitutional*. Of the former the discharge itself is the most prominent. Very often it takes place in the night, the sensation produced by the emission suddenly waking the patient out of sleep. These are called nocturnal emissions. They are usually preceded by lascivious dreams, the influence of the imagination upon the seminal vesicles being sufficient to produce an emission. They do not always, however, arouse the patient out of sleep; for the seminal vesicles and their outlets will sometimes become so debilitated, and so deficient in natural sensibility through sexual excesses, self-abuses, etc., that sudden emissions may take place during sleep without the knowledge of the patient.

Again; involuntary losses of semen sometimes occur while

the patient is at stool, or when he evacuates his bladder, the pressure of the lower bowels and the bladder upon the seed vessels being sufficient to squeeze out the semen, which comes away in a clear condition or with the urine. In all such cases the seminal vesicles are greatly debilitated, and there is danger that the mischief will go on for an indefinite period without the knowledge of the patient.

Finally, the seminal vesicles unable to retain any considerable amount of seminal fluid, allow it to dribble away slowly, but almost constantly, a portion of it remaining in the urethra to be washed out when the patient makes water, just enough escaping at other times to moisten the glans penis. This may appear to the naked eye like the oozing of unwholesome perspiration, increased, perhaps, upon the occurrence of voluptuous thoughts when in the society of females, or by accidental frictions. It is sometimes so slight that the orifice of the penis is no more moistened than it would be by the escape of a drop or two of urine; but the drop of semen contains the living seed, the constant escape of which will sooner or later viciate and destroy the system.

When the existence of unconscious seminal discharges and their destructive effects upon the system, were first published to the profession, most physicians, not taking pains to investigate the subject, seemed to doubt the existence of such a disease, and to suppose that the discharge consisted merely in the mucous secretions of the urethra and the prostate gland; and many physicians at the present day are nearly or quite as ignorant. But the frequent

use of the microscope in the diagnosis of this disease, has long since established its existence and frequency. If the physician, who understands the use of the microscope, takes a little of the cloudy or flocculent matter sometimes found in the urine, or a little of the matter squeezed out of the penis between the thumb and finger, or obtained by other means which we sometimes employ, and places it upon the slide under the microscope, and distinctly discovers the spermatozoa, he knows the discharge is spermatic fluid, and that he has a case of seminal weakness; for the spermatozoa is the vital principle of the spermatic fluid. In this way we have established beyond all question, the existence and great frequency of this disorder.

All these unconscious emissions are peculiarly dangerous from the fact that they may run on for an indefinite period without the knowledge of the patient, and consequently without an application for medical relief. Ignorant of his real trouble, the patient ascribes his unhappy condition of body and mind to any cause but the right one, till acute and agonizing disease forces him, at the eleventh hour, to apply to some physician for the relief of the medical art; and happy for such a patient if he falls into the hands of some one who understands his condition and possesses the skill to remove his disease, and to restore his shattered system to soundness and health.

Some of the most obstinate disorders of the sexual system, which have come under our treatment, not only had their beginning, but gained ground for months or years during the entire ignorance of the patient of the existence

of such diseases, having never applied to competent medical authority for advice. The generative system being the most delicate and intricate portion of the body, is the most subject to unseen and unsuspected derangements, among which seminal weakness is, perhaps, the most insidious and dangerous; and this suggests the importance of a thorough examination by a competent and skillful physician, in those patients who are constantly complaining without knowing the cause of their sickness.

The state of the external organs of generation is another local symptom of seminal weakness not always sufficiently marked at the commencement to attract the attention of the patient. Though complete impotence may not have supervened—which is sure to follow sooner or later if seminal weakness continues—by attention to himself the patient will usually be able to detect some diminution of his ordinary erectile power. When erected he will find the organ less forcibly distended, and not quite so hard as natural. This change is gradual, and sometimes very slow, but unless the cause is removed it is certain to go on to total impotence; while in a state of health, and with certain precautions, such as we have pointed out in the preceding chapter, he may retain his sexual power to a good old age.

The patient will very frequently observe a slight atrophy or diminution in the size of the organ, and after a while it may shrink away one third or one half its natural bulk. We have seen it wasted away till it was hardly as large as the little finger. Many such cases are recorded by physi-

cians eminent in this field of inquiry, such as Broussais, Dupuytren, and Lallemand of Paris; Reid and Acton of England, etc.; and our own observation furnishes many more cases of the same character, which, did our space admit, we should be glad to dwell upon more at length as an admonition and warning to such persons.

The scrotum may be found in a relaxed and flabby condition, and the testicles may hang more loosely than natural, one very often dropping further below the other than nature intended, all of which shows a sad want of tonicity in the parts. On attempting copulation the emission will sometimes take place almost immediately, even before a proper degree of penetration has been effected, or before sufficient time has elapsed to make the act natural, or decent and becoming. This must create the most unmitigated contempt and pity on the part of the female, who realizes a sorry apology for the pleasures of the nuptial bed.

So much for the more prominent local symptoms. Let us now notice some of the general symptoms of seminal losses. These are literally legion. Connected with and affecting every part of the organization, it would be difficult to name any functional disturbance, which may not be produced by this disorder. Uneasiness in the stomach accompanied by flatulence, giddiness and heaviness in the head, pain or weakness in the eyes, a feeling of lassitude, weariness, and dislike of exertion, irregularity of the bowels, troubled sleep succeeded by days of nervousness and apathy, fluttering and palpitations of the heart, great

sensitiveness to changes in the weather, gloomy imaginations, and a disposition to shun society, are some of the milder symptoms, or such as very soon set in, and increase in severity the longer the emissions continue. In describing such cases Lallemand uses the following language:—

“The patients soon become ill. The most intimate friend is ignorant of the cause of the various disorders they complain of; nor is the medical man who possesses their confidence better informed, for even the patients entertain no suspicion of the real nature of their complaint. Hence, their indisposition is set down to ennui, a tendency to melancholy, or to hypochondriasis. When their disease assumes a more serious aspect, then the constitution is said to be delicate, impassionable, or unhealthy, and they are looked upon as *malades imaginaires*. They are reproached with too much care of themselves, or an overfondness for medicine. Medical men in extensive practice, tired of hearing the tale of so long a series of unmitigable and inexplicable maladies, rid themselves of such patients by recommending them to travel and obtain a change of air. Charlatans plunder them, and officious friends advise marriage, or some sort of occupation to fill up the void in their existence, but all blame, because no one really comprehends, the nature of their disorder. Unfit for any serious occupation, and incapable of deep reflection, they become dissatisfied with themselves, and still more so with others. Absorbed in one sole thought, they return incessantly to their disease to seek for the cause of their lamentable condition, and soon become misanthropical.”

But let us continue the description as the disease advances, and, step by step, becomes more serious and painful. In some nervous constitutions, difficult breathing, tightness in the chest, and cough may soon appear to harass and alarm the patient. Such patients are very often treated for consumption, when seminal weakness is the real trouble. Such mistakes are very common among physicians who have given little attention to this department of practice: It should not be forgotten, however, that if the emissions and cough continue they may run the patient into the consumption, and in that way end his miserable days.

Disturbed sleep, as before intimated, is a very common symptom. Persons in health go to bed weary, and rise refreshed, but the patients under consideration often rise more fatigued than when they retired. Their sleep is either dull and heavy, and, therefore, unrefreshing, or light and broken by nightmares or frightful dreams, and finally a state of nightly restlessness ensues followed by days of ennui and melancholy. Lallemand says:—

“At a still more advanced period sleep leaves the patient almost entirely. They often pass whole nights in agitation without being able to find a comfortable posture; they get up and lie down again, walk about, or roll on the beds; at one moment their bodies and temples are on fire; at the next they are chilly and covered with cold sweat. During these long nights they constantly dwell on sad thoughts, and are especially tempted to commit suicide.”

The eyes are apt to have a heavy, sleepy, idiotic appear-

ance, and the patient sometimes becomes blind. The hearing may be affected with dullness, or it may be preternaturally acute, sharp and heavy sounds being annoying and painful. A feeling of weight and heaviness in the head, swelling and confinement of the brain, and heats, flushes, and chills make the misery of such a patient complete. Gloomy images now revolve in the mind, among which, self-destruction may figure foremost.

But of all the symptoms of this disorder, the alterations which take place in the mental faculties are, perhaps, the most lamentable. This is too little understood by medical men. Usually the first change observed will be loss of memory. The patient will be found making frequent inquiries concerning transactions of a recent date, the names of persons, places, etc., as though the brain was losing its retentive power, and ideas easily slipped out of the mind, which are literally true. This state of mind is all the more deplorable, because it is the certain harbinger of complete mental imbecility or idiocy unless the cause is removed.

Such patients are often troubled with perplexity and confusion of ideas, vacillation and fickleness of purpose where any simple decision is required ; and they are unable to fix their thoughts on any particular business or topic of study. Wandering thoughts, often such as are not of the most pure and innocent character, rush into the mind upon the most unsuitable occasions ; the temper becomes peevish, sour, and irritable upon the slightest provocation, or rather upon no provocation whatever ; and when the sufferer is a

married man, this bitterness of temper is often the source of the most vexatious domestic misery. Persons previously cheerful experience frequent attacks of melancholy and languor; and vague fears of some calamity, which they cannot define or understand, but still fear, often hasten them towards that state of restlessness and melancholy, which renders life a burden. They imagine enemies among their nearest friends, and suppose the whole world is conspiring against their happiness; and while they seem apprehensive of every change in the weather, or other trifling circumstance, which they fear might affect their health, they may be contemplating immediate suicide. This insanity becomes the fixed condition of the patient; and recent investigations and reports of our insane asylums, fully attest that sexual pollutions of various kinds are frequent causes of imbecility and insanity.

In consequence of the exhaustion of the vital stamina of such patients, the irritability of the nervous system, and the congestion or softening of the brain, epilepsy and paralysis, are by no means uncommon results. To sum up, therefore, as we cannot dwell separately upon all the unhappy results of long continued seminal losses, we may name, in addition to the ordinary symptoms, complete imbecility, insanity, epilepsy, paralysis, and consumption.

Touching the effects upon the system of long continued unnatural seminal losses, Hufeland, a German physiologist of great distinction, gives the following eloquent and vivid description:—

“Hideous and frightful is the stamp which nature affixes

to one of this class. He is a faded rose—a tree withered in the bud—a wandering corpse. All life and fire are killed by this secret cause, and nothing is left but weakness, inactivity, deadly paleness, wasting of body, and depression of mind. The eye loses its lustre and strength; the eye-ball sinks; the features become lengthened; the fair appearance of youth departs, and the face acquires a pale, yellow, leaden tint. The whole body becomes sickly and morbidly sensitive; the muscular power is lost; sleep brings no refreshment; every movement becomes disagreeable; the feet refuse to carry the body; the hands tremble; pains are felt in all the limbs; the senses lose their power, and all gaiety is destroyed. Such persons seldom speak, and only when compelled; all former activity of mind is destroyed. Boys, who before showed wit and genius, sink into mediocrity, or even become blockheads; the mind loses its taste for all good and lofty ideas, and the imagination is utterly viciated. Every glance at a female form excites desire; and anxiety, repentance, shame, and despair make the painful state of such a man complete. His whole life is a series of secret reproaches, distressing feelings, self-deserved weakness, indecision, and weariness of life; and it is no wonder if the inclination to suicide ultimately arises—an inclination to which no man is more prone; the dreadful experience of a living death renders actual death a desirable consummation; the waste of that which gives life generally produces disgust and weariness of life, and leads to that peculiar kind of self-destruction, which is characteristic of our age. Moreover, the diges-

tive power is destroyed; flatulence and pains in the stomach are likely to follow, and create constant annoyance; the blood is viciated; the chest obstructed; eruptions and ulcers break out upon the skin; the whole body becomes dried and wasted; and in the end come epilepsy, consumption, slow fever, palsy, fainting fits, and an early death."

Let us now invite the attention of our readers to a careful consideration of the causes of seminal weakness. To shun the evil let us try to understand the causes thereof. And before noticing the three principal causes, we will remind the reader, that there are many diseases of the genito-urinary organs that may exist as the causes, or the symptoms, or entirely independent of, seminal weakness, such as inflammations of the testicles and their appendages, stricture of the urethra, irritability of the bladder and urethra, pruritus or the excessive itching of the anus, scrotum and surrounding parts, etc., etc. Again, there is scarcely a disturbing influence of the human frame that may not, in certain nervous, irritable constitutions, resolve itself into an active promoter of this evil. For instance, a single night's drunken debauch, hemorrhoids or other diseases of the lower bowel, ascarides or small worms in the fundament, drastic purges often administered and long continued, diarrhœa or its opposite constipation of the bowels, may give rise to seminal weakness. Congenital predisposition is sometimes a cause. Here the seeds of disease lurk in the system until called into activity by some exciting cause, such as a blow, a fall, horseback riding, fatigue, violent mental emotions, drunkenness, etc.

But there are three causes which stand foremost in the list we are considering as they may produce the disease in any constitution, however vigorous and enduring. These should, therefore, receive a more special and extended notice.

1. Sexual excesses! It is easy to understand how such an abuse may produce the evil in question. If the body is overworked, exhaustion and prostration follows; and if it is often repeated and long continued the system is debilitated, emaciated and prematurely worn out. The same law holds in regard to any particular organ or function of the body. By forcing into the stomach a large quantity of indigestible and unwholesome food thereby over-burdening the wonderful energies of that organ, after awhile its energies flag, and dyspeptic symptoms make their appearance. By overstraining the eyes, as in artistic employments of various kinds, or in reading without sufficient light, and continuing the exertion for a long time, those delicate organs become weak, and inflamed, and vision prematurely declines. Such illustrations might be enumerated to almost any extent; but our object is merely to call attention to this universal law, as applied to the sexual system. By sexual excesses the seminal vesicles and their outlets lose their natural and healthy tonicity, and become so debilitated and relaxed, that they have no power to retain the semen, which escapes with or without the consciousness of the patient.

2. Gonorrhœal and gleet discharges! The mucous membrane of the urethra is continuous with that of the seminal

vesicles and their ducts which open into the urethra. An impression, therefore, made upon the urethra may be transmitted to all the parts, which are continuous, if not contiguous, with it; and hence a badly treated gonorrhœa ending in gleet very often extends its weakening influence to these parts, producing, if allowed to continue, an obstinate form of involuntary seminal emissions. As an example we will give a brief description of a case, which came under our professional care:—

The patient had contracted gonorrhœa. He was treated by some inferior practitioner, who dosed him in the ordinary manner with copaiba, cubeb, etc.; and resorted, as usual, to the early use of astringent injections. He was then supposed to be cured. Soon after, however, a gleet discharge made its appearance, which continued for a few months and was then temporarily arrested by some empirical preparation to reappear from time to time afterwards. But years subsequently, when the gentleman had nearly forgotten his gonorrhœa, his health began to fail, and his mental faculties were undergoing a change for the worse; nervous prostration and loss of sexual power were already stealing upon him; he knew his illness was increasing upon him, but he was entirely ignorant of the cause of his misery. He, therefore, consulted a physician, who, failing to discover the cause of illness, pronounced his patient hypochondriacal, merely fancying himself to be sick. Months afterwards he applied to the writer with a faint hope that he might still find relief. He first gave us a history of his case by letter, which, at once, led us to

suspect that he had all the while been suffering from seminal weakness, and further inquiry confirmed our first impressions. A thorough treatment was prescribed, having reference to the general health and the local disease which, in due time, effected a complete cure.

Now, here was a patient who had been parting with life itself, and descending towards the grave, as the result, in the first place, of a badly treated gonorrhœa followed by seminal weakness, and, in the next place, of the inability of the practitioner first consulted to detect and remove the infirmity; and had it not been discovered and removed in the manner explained, the grave would have closed over another victim to *imaginary illness*, as it is so cruelly and falsely called. This case, we record merely as an example of the large number of patients, who, after seeking relief from various improper sources, have placed themselves under our treatment and been discharged in a healthy condition; and we make the statement not in the spirit of boasting, but as a matter of justice to ourselves, and such patients as above described; for while most physicians know little of the nature and treatment of this infirmity, we have taken great pains to investigate the whole subject, and have been able to devise a plan of treatment which proves eminently successful.

3. Masturbation! All the other causes of seminal weakness put together, are, by no means, equal to this. Indeed, few persons, who practice this vice escape involuntary seminal emissions in some form; and when they do, the loss of semen, and the shock upon the nervous system

from masturbation, produce the same, or worse effects, than involuntary losses of semen; and, therefore, all we have said, and shall still say concerning the general symptoms and unhappy consequences of either, applies with equal force to the other, though we have preferred to keep the two subjects somewhat distinct. We shall, therefore, notice this more fully than either of the other causes, as we have not space to make it the subject of a separate chapter. And let us first inquire,

What is this secret vice? That the youth, who, as yet have escaped contamination, may continue uncontaminated, they should understand, as well as the nature of the subject will allow, what the habit is; for this is the only way they can be deterred from falling into its practice. As a general definition, we may state, that it is an effort made by persons, while in secret, and yielding to their lascivious impulses, to procure to themselves the sensations appended to the intercourse of the sexes. This may be made clearer by a literal definition of some of the terms used to designate the practice. It is called Onanism, because Onan commanded by Judah his father "to go in unto" Tamar his brother's wife, and raise up children unto his brother, disobeyed the command, by managing to spill his seed upon the ground. It is called masturbation, from two Latin words, one signifying *hand* and the other *Iravish*—to ravish with the hand, because the hand is used to excite the sexual passion. It is also called self-pollution and self-abuse, because the pollution and abuse is produced by the person himself. Solitary vice, secret vice, etc. are other terms

used to designate this vicious and filthy habit, because it is practiced in solitary and secret retreat, away from the observation of others.

Masturbation being a solitary and secret practice, it is impossible to guard against it, except by vigilance, and warning, and a faithful portraiture of its terrible consequences; for it may be learned under almost any circumstances—in the family, at public and private schools, from vicious associates, and even from the perverse instincts of the youth himself. Hence, we see the folly of the pretence that a knowledge of this subject will lead to its practice, when it cannot be guarded against except by careful instruction, and the most faithful description of its terrible consequences. Those who believe in the concealment of a knowledge of this vice are persons of good intentions, but they never reason well. They are controlled by feeling instead of duty.

We do not desire that this subject should be shorne of the disgust and delicacy, which naturally belong to it, nor that it should be made a topic of ordinary conversation; for that would shock the sensibilities of all decent people. But there are proper ways to impart this instruction, the best and most efficient being to place in the hands of the young, and those of riper years, suspected of having contracted the habit, well-written works setting forth the consequences of all secret and vicious practices. Such a course could not fail to produce its legitimate and beneficial effects upon society. And well would it be for the rising generation if this volume, as intended, should receive such

a circulation. There is also great need that clergymen, superintendents of colleges and schools, parents, guardians, and all to whom are intrusted the formation of youthful character, should be better instructed upon such subjects, that they may more readily detect, and, if possible, remove those deadly vices, which commence in the heart, rather than the outward life.

There are no physicians in this or any other country, having devoted themselves chiefly to the treatment of diseases of the genital organs, who are not deeply impressed with the prevalence of self-pollution. It may be doubted by the mere routine practitioner; but, of all men, he is least likely to form an accurate conception upon this subject; for he is seldom ever entrusted with such secrets. The confession that the solitary victim will not, and cannot with propriety make to a father, mother, or brother, he will not be likely to make to the family physician. The common medical attendant, then, is just as ignorant of the extent and consequences of such vicious practices, as he is of the best mode of detection and cure. Away then with this wretched perversion of the meaning of the terms "morality and delicacy;" it is better, in the language of a great master of science, "to admit, at once, that amongst other infirmities of our nature, causes predisposing to self-abuse exist within the human organization itself, and to take measures, at least as strenuous against this almost universal infirmity, as are adopted against others far less common, less seducing, and less pernicious."

That young people frequently fall into the habit in ques-

tion, and almost destroy themselves while totally ignorant of the consequences, the writer can testify from the experience gathered during his practice, and he feels assured that in calling attention to the evils resulting from every form of vicious indulgence he is adopting the most efficient means of prevention and cure. Many a noble youth might have been saved to his family and to society by such timely warning; and shall it be said that it is wrong to strip the mask from this fearful infatuation, and to paint its horrors as they really exist?

Among the intelligent and well-educated classes, and those whose occupations, or the want of occupations, lead them to habits of indolence, we find large numbers of persons exceedingly prone to this vice; for it is true the world over, that "indolence is the mother of vice." And must we acknowledge that young clergymen are often given to this practice? Such is the case, and it is sometimes carried to a very destructive and debasing extent. They have sufficient scope, it is true, for the exercise of their intellectual and moral faculties, upon subjects elevating and ennobling to the mind, but the indolence of the body, and the over-fawning female society into which they are so readily admitted, very often counterbalances the good influences coming upon themselves from their professional labors, and while preaching to others they are themselves castaways. They know it is a crying sin in the sight of Heaven and resolve to quit it; their resolution is broken; they beg for pardon and strength to overcome the temptation; again they resolve, and again their resolution goes

to the wind; and after awhile, the scene being acted over and over for almost an innumerable number of times, some gain a victory over their passions, more or less complete, while others remain slaves to the lusts of their flesh for an indefinite length of time, some of whom are the most pitiable objects to be found in all God's universe. It is useless to cover this thing up. I prefer to probe it, to expose and lay it open to the light of truth and science, with the hope of doing something to remedy the evil. We can often tell one of this class by looking upon him when standing in the pulpit; and, as it is our uniform custom to attend church, rain or shine, when possible to do so, these things are sometimes often forced upon our mind when least desirable. We have had such persons call at our office to consult us upon their unhappy condition, full of apologies for the necessity of making such a revelation, when the very thing had, more than once, been most undoubtedly revealed to us from the "sacred desk." Dr. Armstrong, an eminent English physician, whose inquiries upon this subject are worthy of great respect, says, "I think I could tell a person, who had given himself up to the practice of self-pollution, merely by walking behind him in the street, from his peculiar gait."

Rev. Dr. Adam Clarke, the learned and illustrious commentator of the Holy Bible, speaks of masturbation in the following emphatic language:—

"The sin of self-pollution is one of the most destructive evils ever practiced by fallen man: in many respects it is several degrees worse than common whoredom, and has in

train more awful consequences. It excites the power of nature to undue action and produces violent secretions, which necessarily and speedily exhaust the vital principle and energy; hence, the muscles become flaccid and feeble, the tone and natural action of the nerves relaxed and impeded, the understanding confused, the memory oblivious, the judgment perverted, the will indeterminate, and wholly without energy to resist. The eyes appear languishing and without expression, and the countenance becomes vacant; appetite ceases; as the stomach is incapable of performing its proper office, nutrition fails; tremors, fears, and terrors are generated: and thus the wretched victim drags out a miserable existence, till superannuated even before he had time to arrive at man's estate, with a mind often debilitated, even to a state of idiotism, his worthless body tumbles into the grave, and his guilty soul is hurried into the awful presence of its Judge."

Unfortunately for the history of human nature, this vice has been found coeval with every form of society, savage and civilized; and the denunciations of ancient moralists are of equal application at the present day. We find them expressing the greatest horror at this degrading practice, as a crime the most monstrous, unnatural, and filthy, its consequences absolutely ruinous, perverting natural inclination and conjugal affections, and extinguishing the hope of a vigorous posterity. The morals, the constitutions, and the future manhood of the growing population of our country are perishing, and rotting under the influence of this terrible evil. Its prevalence among our youth and

those of more mature years is a matter of certainty, which it would be foolish to attempt to conceal, as it can only be extinguished by exposure, and a faithful description of its terrible consequences.

Hippocrates, more than two thousand years ago, observed that "the seed of man arose from all the humors of his body, and is the most valuable part of them. When a person loses it, he loses the vital spirit; so that it is not astonishing that its too frequent evacuation should enervate, as the body is thereby deprived of the purest of its humors." Another author remarks, that "the *semen* is kept in the *seed vessels*, until the man make proper use of it, or *nocturnal emissions* deprive him of it. During all this time, the quantity which is there detained, excites him to the act of venery; but the greatest part of this essence, which is the most volatile and odoriferous, as well as the strongest, is absorbed into the blood; and it there produces on its return very great changes. It makes the beard, hair, and nails grow; it changes the voice and manners; for age does not produce these changes in animals, it is the seed only that operates in this manner, for these changes are never met with in eunuchs, or those who have been deprived of their testicles. Can a greater proof of its vitalizing power be shown, than this fact, that one single drop is sufficient to give life to a future being? Those, then, who waste this precious fluid are truly wretched. Disabled from rendering any service either to themselves or their friends, they drag on a life totally useless to others and a burden to themselves, in the midst of that society,

which, if it could know, would despise, rather than pity them for their self-inflicted sufferings.”

A moment's consideration will suggest how necessarily a continuous and excessive drain of the seminal fluid by masturbation must lead to prostration and decline. That fluid is not an excrementitious material, intended to be expelled from the system, like dead and effete matters that would be injurious longer to remain in the body; but it is intended to be retained in the body, with the exception of the small portion healthfully employed, from time to time, for the propagation of the species. All physicians who have given attention to this subject are of the opinion that one ounce of this fluid lost by masturbation, excessive unnatural indulgence, or seminal weakness, is equal to the loss of ten ounces of blood.

Among the effects of masturbation, we must not forget to mention *priapism*, or a permanent erection of the penis. This will sometimes remain for weeks or even months, producing the most painful consequences, and endangering the life of the patient by inflammation and disorganization, or by erysipelas running up into the body, unless the patient lives where he can, at once, avail himself of the most skillful treatment. Atrophy or wasting away of the penis, such as we have described as one of the consequences of involuntary seminal emissions, is sure, to a greater or less extent, to follow long-continued masturbation. The organ also has an old look, and is often more or less distorted. We have often seen it looking as old and infirm in boys

sixteen or seventeen years of age, as in man at the age of sixty years.

But there is another local result of self-pollution to which we would more particularly call the attention of our readers—the loss of the natural sensibility of the parts. This is sometimes so great, and the penis becomes so deadened to the ordinary means of excitement, that the hand is no longer sufficient to produce an erection accompanied by erotic sensations; and if the victim—always weak in intellect—is unaware of the danger of such horrible practices, he will be likely to resort to other artificial means more potent for this purpose. Hence, we find them titillating the urethra with pencils, sticks, pieces of whale-bone, and such things, which often slip into the bladder endangering the life of the patient and rendering surgical aid necessary for their removal. Sometimes it is necessary to cut the patient as for stone. Another means sometimes employed to produce erotic excitement is to thrust the penis through small holes, such as the handle of a key, a candle-stick, etc., and the organ immediately swelling it is often impossible to withdraw it without surgical assistance. Had we space we might relate many painful, as well as ludicrous, cases of this kind.

An interesting case is related of an inn-keeper, who was in the habit of titillating the penis by introducing foreign bodies into the urethra. “On one occasion he used an iron wire seven or eight inches long, the end of which was crooked like a hook, to obtain, probably, more exquisite pleasure. One day, while indulging in this singular

maneuver, he suddenly felt severe pain. The membranous portion of the canal was ruptured. The unfortunate man made several attempts to withdraw the wire; but the hook, which had entered the soft part, rendered it impossible. Overcome by suffering and shame, he wished to get rid of it; and with this view, he rounded the loose part of the wire into the form of a ring, proposing in this manner to pull upon it more firmly. He exercised this force until the ring was nearly broken, but the iron was still in its place. He now expected death, and was obliged to call in a physician to his relief.

“Dr. Fardeau was promptly in attendance. He found the penis, and also the skin of the scrotum enormously tumefied. All the tissues which are inserted in the penis were also swelled, hot, and painful. The belly began to be puffy; the urine was suppressed; the face was red; the eyes filmy; the pulse hard, frequent and corded, and the mind much affected. Dr. Fardeau grasped the loose portion of the wire, pulled it up slightly, and immediately found that the other end was arrested by an immoveable obstacle. He then examined the parts attentively, and found, to his astonishment, that the hook was fixed in the inner edge of the ischiatic tuberosity. An oblong incision was now made over this part; the hook seized, and the wire was withdrawn through the perineum. This patient, after suffering a long time from the wounds inflicted, was finally restored to health, and effectually cured of his detestable practices.”

For the purpose of exposing still further the ridiculous

means which persons, who have destroyed their intellects by long-continued self-pollution, will sometimes employ to produce erotic sensations; and to bring this whole subject home to the consciences of our readers, and disgust them, and thereby deter them from its practice, we will here record the notorious case of Gabriel Gallien, a shepherd of Languedoc, as related by Chopart in his work on the urinary passages. Startling and incredible as the description may appear, it is still authentic:

“At about the age of fifteen, he became addicted to masturbation, and to such a degree as to practice it seven or eight times a day. Emissions became at last so difficult that he would strive for an hour, and then discharge only a few drops of blood. At the age of six and twenty his hand became insufficient—all he could do was to keep his penis in a continual state of priapism. He then bethought himself of tickling the internal parts of his urethra, by means of a bit of wood, six inches long, and he would spend in that occupation several hours, while tending to his flocks in the solitude of the mountains. By a continuation of this titillation for sixteen years, the canal of the urethra became hard, callous, and insensible. The piece of wood then became as ineffectual as his hand. At last, after much fruitless effort, Gallien, one day in despair, drew from his pocket a blunt knife, and made an incision into his glans along the course of the urethra. This operation, which would have been painful to any body else, was in him attended with a sensation of pleasure, followed by a copious emission. He had recourse to this new dis-

covery every time his desire returned. When, after an incision into the cavernous bodies, the blood flowed profusely, he stopped the hemorrhage, by applying around the penis a pretty tight ligature. At last, after repeating the same process perhaps a thousand times, he ended in splitting his penis into two equal parts, from the orifice of the penis to the scrotum, very near the symphysis pubis. When he had got so far, unable to carry his incision any further, and again reduced to new privations, he had recourse to a piece of wood, shorter than the former; he introduced it into what remained of the urethra, and exciting, at pleasure the extremities of the ejaculatory ducts, he provoked easily the discharge of semen. He continued this about ten years. After that long space of time, he one day introduced his bit of wood so carelessly that it slipped from his fingers and dropped into the bladder. Excruciating pain and serious symptoms came on. The patient was conveyed to the hospital at Narbonne. The surgeon, surprised at the sight of two penes of ordinary size, both capable of erection, and in that stage diverging on both sides, and seeing besides, from the scars and callous edges of the divisions, that this conformation was not congenital from his birth, obliged the patient to give him an account of his life, which he did, with the details that have been related. This wretch, cut, as for a stone, recovered of the operation, but died three months after of an abscess in the right side of the chest; his physical state having been evidently brought on by the practice of masturbation, carried on for many years."

In the course of our remarks, we have alluded to the melancholy and irritable condition of most persons suffering from the effects of solitary vice, and involuntary seminal losses, and the practice of upbraiding them as *imaginary invalids*, merely fancying themselves to be sick. Now this practice, so common and wrong-headed, we would solemnly protest against as injurious in the extreme, tending to confirm the patient in his unhappy condition. It should, therefore, be rigidly guarded against, as a part of the treatment in all such cases. It is more consistent to endeavor to keep up the patient's courage, by a cheering word spoken at the proper time, and the avoidance of every circumstance which could confuse or irritate him. But before he can enjoy the world or society the cause of his illness must be removed. Remember; if he complain, he must be sick, though the cause and nature of the sickness be hid from every observer; or, if the illness should seem to be confined chiefly to the mind, it always depends upon some cause requiring the scrutiny and resources of the skillful practitioner for its detection and removal. An eminent European writer speaking upon this subject uses the following language:—

“It is in vain we say to the so-called hypochondriac—amuse yourself, employ your mind, go into society, seek agreeable conversation; so long as we have not removed the cause of his disorder he is unable to profit by our counsels. How can we expect, that when a man is fatigued by the least exercise he shall occupy himself with walking or gardening? How can we desire him to go into society, when

the simple presence of a woman intimidates him, and recalls all his former misfortunes? How can we expect him to enjoy conversation when he loses its thread every moment—when his memory leaves him, and when he feels his nullity? We persuade him to seek amusements and pleasures, but are they such to him? Is not the happiness of others his greatest punishment? Because he is unable to follow our advice, we accuse him of unwillingness, and we wish to compel him. But *let us first remove the cause of our patient's disease*, and we may then hope that his character and conduct will change, and that he will return to his natural tastes and habits."

Various local appliances have been invented for the treatment of seminal losses with varying and unsatisfactory results. Lallemand of Paris, whose investigations and writings have done so much to explain the true character and results of such infirmities, was still very limited in his resources of treatment. He was author of the celebrated *Porte Caustique*, a silver instrument like a catheter, with lunar caustic fixed at the end, or in a groove near the end, to be thrust into the urinary canals of all spermatorrhœal patients, regardless of the condition of the general system or the local parts. This became a fashionable remedy, and, therefore, had a long run before its bad results were fully realized. That it sometimes produced beneficial results in the hands of such men as Lallemand, no enlightened physician will doubt; but its bad results are so frequent and dangerous, that its use under any circumstances, is, at least, very questionable. Inflammation, spasm, and

stricture of the urethra; strangury and irritability of the bladder; swelled and painful testicles, etc., etc., are frequently produced by this fashionable remedy. Many practitioners adhere to it at the present day; but in our hands milder and safer remedies are uniformly successful; and, therefore, the *porte caustique* is not one of our resources of cure.

An attempt to prevent the escape of the semen by pressure upon the walls of the urethra has its disciples. A ring-like contrivance has been invented, which locks around the penis, and hugs the urethra so closely that no semen can escape beyond while it remains. But look at the laughable absurdity of such an invention! Of course it cannot prevent the escape of the semen from the seminal vesicles, but merely from the urethra beyond the ring. What, then, is the result? Why, any novice can tell! The semen is collected into the urethra behind the ring—a portion of it sometimes passes backwards into the bladder owing to some irregular spasmodic action of the urinary passage—and when the patient is obliged to remove the ring for the purpose of making water, the semen and the urine come away together, and the unhappy invalid is beguiled into the belief of amendment, because he does not see the semen escape. Surely absurdity could go no further, and is just worthy a school-boy who is unable to hold his water; besides, its use might produce stricture of the urethra, venous congestion of the organ, etc.

Suppositories are highly recommended by some practitioners in the treatment of this infirmity. These consist

of various medicated substances, rolled into the form of a cigar, and thrust up the patient's fundament upon going to bed—a most uncongenial way of giving medicines. Of course, no *direct* effect can be produced upon the seminal vesicles or their ducts by this treatment; for a mere tyro in medicine can certify that the suppository would be separated from the diseased parts, by the coats of the rectum, the prostate gland, and a certain amount of cellular tissue. But a slight effect may be produced *indirectly* by the sympathy of the diseased parts with the rectum, and the absorption of a slight amount of the medicinal substance contained in the suppository. In this way a continued impression is kept up. But when necessary to administer medicines per rectum, it is usually preferable to dissolve them in water, and throw them up the bowel with a syringe, as they are more readily absorbed and produce more salutary results, both locally and constitutionally. Neither of these contrivances are necessary, however, when medicines can be retained upon the stomach, except, perhaps, an injection to provoke the action of the bowels, or an anodyne injection to produce relief from pain situated in the neighboring parts.

In the treatment of seminal weakness, and various other diseases of organs situated within the pelvis, it has been customary, from time immemorial, to employ various kinds of counter-irritation over the sacrum, and small of the back, such as blisters, tartar emetic eruptions, and various other escharotics; moxas, setons, irritating plasters, etc.; but we have long since given up all such applications, and

for the best of all reasons, viz. : we have seldom seen the slightest benefits from their use. Applied to other parts of the body, in the treatment of serious diseases, they are often very serviceable in the hands of skillful practitioners; but when applied over the sacrum, or lower part of the back, for the treatment of diseases of organs within the pelvis, they produce, we repeat, little or no effect, except to torment and harass the patient. It is, therefore, unjust and inhuman to employ them. One of our most eminent surgeons, having had his attention called to this subject, acknowledged to us that he had never seen any very decided benefits from this treatment, though he had employed it for years, for all sorts of diseases within the pelvis, and had laid it down as an essential part of the treatment, in a large text book for our colleges. It has been a fashionable remedy, and, therefore, employed without proper reference to the results.

So much for some of the treatment still employed by many practitioners, which we have tested and discarded, as dangerous, or worthless; and now let us sum up some of the principles of our present treatment. It is *local* and *constitutional*; but in both cases, the remedies are given per os, and pass through the stomach.

It is well known by medical men, that our *materia medica* furnishes us with various agents, having direct and specific action upon all the organs and functions of the system. For instance, some act chiefly upon the liver, increasing the flow of bile, and correcting various disturbances of that organ; others act chiefly upon the kidneys, in-

creasing the flow of urine, and correcting its abnormal condition; others still direct their force chiefly to the genital organs, increasing the sexual power and appetite, and tending to correct various infirmities—and so on through the whole economy.

Again; we have remedies which enter into all the secretions and excretions of the system. This is proved by applying the proper chemical tests. For instance; if we take a little of the urine, and test it for any particular substance which the patient is taking, and find the identical substance present, we know it passes through the system into that excretion—we have also learned an important principle in the treatment of various urinary and genital diseases, viz.: the medication of the urine. We are thus in possession of various remedies, both mineral and vegetable, which pass into and medicate the urine. Now, the urine thus medicated comes in direct contact with the outlets of the seminal vesicles, and the whole of the urinary passage, and the influence of the remedy, is transmitted to the seminal vesicles themselves. But some of these substances are inert; others do harm, while others effect a cure; and, therefore, it requires great experience and discrimination in the selection of the proper remedy for the case in hand. Upon such knowledge depends the skill of the practitioner in the treatment of various diseases of these organs. Of course, the remedy thus diluted with the urine is not very pungent, but, if continued a reasonable length of time, it possesses sufficient strength to produce a permanently healing effect, which experience abundantly proves. Does

the reader now understand our *principle* of treating seminal weakness by administering remedies through the stomach?

In addition to such local treatment as above indicated, the general constitution of such patients always needs great attention. Always enervated, debilitated, and shattered, to a greater or less extent, the system must be fortified and built up, by a judicious course of tonic and alterative treatment; but this may generally be united with the local treatment, when convenience, or other circumstances, makes it desirable. If there should be any atrophy or loss of sexual power—which will be found to exist in nearly all bad cases—the instrument described in the last part of the preceding chapter, will be found serviceable in connection with the other treatment.

CHAPTER XI.

INFECTIOUS SEXUAL DISEASES.

Gonorrhœa produced by infectious matter—Ludicrous ideas of some authors—The period of incubation—How the symptoms commence—Character of the discharge—The painful symptoms—Scalding in making water, swelled glands, chordee, phymosis, paraphymosis, swelled testicles, irritable bladder, etc.—The formation of spasmodic and permanent strictures—Terrible consequences of bad treatment—Syphilis—The primary sore or chancre—Its situation in males and females—Varieties; hard, soft, and sloughing—The whole virile member sometimes destroyed—The formation of syphilitic buboes—Constitutional syphilis most to be dreaded—Dirty, scaly, copper-colored skin diseases, running sores, sore throat, destruction of the palate, and the nasal appendage, falling of the hair and eyebrows, diseases of the bones, joints, etc.—Syphilitic bronchitis, paralysis, etc.—Why not reported in our bills of mortality—Hereditary transmissions—Fearful mortality of children—The treatment of such children—Remarks upon the treatment of primary and constitutional syphilis.

INFECTIOUS sexual diseases usually called by authors venereal diseases, and sometimes spoken of by the people as *bad diseases*, will form the subject of this chapter. But to give a systematic treatise of these diseases, noticing in detail their origin, nature, effects, symptoms, treatment,

etc., would require a volume equal to the present, and would be of little use to the general reader. We shall, therefore, call attention only to their main features, and interpose our warning and advice as to their terrible consequences and their successful treatment.

There is no person except the medical man, whose reputation brings him patients from all classes of society, who knows the extent to which these diseases exist; he alone understands their terrible consequences, the imprudences of persons in contracting them and in seeking relief, and the ridiculous blunders of charlatans who undertake their treatment.

Sexual intercourse is occasionally impure; animal poisons are generated and communicated by such intercourse, which are of a peculiar malignant character. There are two distinct venereal poisons; one is the poison of gonorrhœa, commonly called clap, which coming in contact with the mucous membrane of the urethra, or the prepuce, produces a specific inflammation, which gives rise to a discharge of infectious matter. The other is the poison of syphilis, vulgarly called the *pox*, which applied to the glans, prepuce, or skin, produces a small circumscribed sore called a chancre.

Let us now proceed to describe these two venereal diseases, and their horrible consequences when badly treated, or allowed to take their own course.

First, gonorrhœa! This disease, as already intimated, is produced by infection from the same disease in the other sex. But the acute stage of the disease may have passed,

and a chronic discharge may continue, for a longer or shorter time afterwards, called a gleet, which may possess enough of the specific poison of clap to produce the disease in a well person. Hence a person may get the gonorrhœa by having connection with another, who has a gleet. Some authors seem to suppose that a gonorrhœa may be contracted in other ways, such as having frequent connection with a woman who has an acrid discharge from the vagina, known as the whites, or a discharge proceeding from ulceration of the womb, or by cohabiting with a woman when she has her courses. Cases are also recorded in medical works—Druitt being, perhaps, the highest authority—where the disease has been brought on by horseback riding, riding in vehicles over rough roads, etc., etc. But we have little faith in such a doctrine. We have never seen a case of gonorrhœa we had reason to believe was communicated by the whites, the menses, horseback riding, or anything of the kind. This may be a very convenient doctrine, and may hide a multitude of sins—for which purpose we suppose it must have been taught—but it does a great injustice to science, to society, and individuals. It is true that a gleety discharge, as the result of gonorrhœa, may be increased, or if it had been arrested it may possibly be reproduced by any of the above causes; but they cannot, in our opinion, originate a gonorrhœa. This can only come from a specific poison like itself.

No certain time can be laid down before a clap will make its appearance after infection has been communicated. In some instances three or four days elapse; in others there

will not be the least appearance of the disease till the eighth or tenth day. Most commonly, however, it is perceptible sometimes between the third and sixth day. It usually commences with a sense of uneasiness about the parts, a tingling, thrilling sensation sometimes exciting lascivious desire; presently this is exchanged for itching and soreness, and then a drop of fluid escapes, and the attention being called to the parts, it is found that the lips of the urethra, are a little inflamed and swollen, and a whitish, glutinous, and nearly transparent fluid exudes from the orifice. At first the discharge is nearly mucous, but afterwards it assumes a decided prevalent appearance; this gradually becomes yellowish, and if the inflammatory symptoms run high, it may assume a greenish color, often intermixed or streaked with blood.

Let us notice some of the painful symptoms of gonorrhœa. Scalding and pain in making water is often very distressing. This is produced by the passage of the urine over the inflamed surface of the urethra. It varies in intensity in different individuals. There is also an irregular, tumefied, contracted condition of the urethra, causing the urine to be passed in a small twisted or forked stream, producing more or less difficulty, as well as pain and scalding, in its expulsion.

Chordee is a very painful symptom. The spongy body of the penis, situated along its inferior portion, through which the urethra passes, is inflamed, and there is deposited in its structure an adhesive matter which fills up the cells, glues them together, and prevents their disten-

tion; and the consequence is, that when an erection takes place the organ is bent downwards, and is horribly painful.

In bad cases we have the conditions called phymosis, and paraphymosis. In the former case, the prepuce is so rigidly contracted in front of the end of the penis, that the patient cannot draw it back to uncover the parts; in the latter case the prepuce is drawn back of the head of the penis, and is so rigidly contracted as to form a tight ring around its neck, producing great pain, and demanding prompt medical assistance to save the structures from mortification and destruction.

The glands of the groins are sometimes affected by gonorrhœa, and swell up, forming what are denominated buboes; but these are quite different from those troublesome buboes produced by syphilis. The former are produced by sympathy with the gonorrhœa; they are very unfrequent, seldom burst, and a number of glands may be affected at the same time; the latter are produced by the absorption of the poison of syphilis, are very common, usually burst, and form loathsome sores, and but one gland is usually affected. Blundering practitioners have sometimes mistaken ruptures for these buboes, and thrust the lancet straight into a man's gut.

Swelled testicles are another painful and dangerous symptom. There is a continuity of mucous surface from the urethra to the testicles, and along this surface the inflammation of gonorrhœa occasionally creeps, producing swelling and pain of one or both of these organs. The testicles are enveloped in dense fibrous capsules, that do

not readily yield, when the organs become inflamed; hence, the pain is excruciating, extending to the small of the back, and producing more or less symptomatic fever. It sometimes happens that the swelled testicle bursts, and the discharge of matter continues till its structure and function is destroyed; but if this does not happen, the function of the organ may be destroyed, or greatly impaired by such mischief.

A gonorrhœa that is badly treated is very apt to run into the chronic condition, and is then termed GLEET. In six or seven weeks the discharge diminishes, but does not entirely cease; its character also undergoes a change; instead of thick mucus and pus, it becomes thin, and looks like a little mucus and pus mixed with water, or like a dirty drop of water. It is usually viscid, and sticks together the lips of the urethra, and stains the patient's linen—a most filthy condition to be endured. The character of this gleety discharge is quite changeable in its color, consistency, and quantity, sometimes almost entirely ceasing and again reappearing upon having sexual connection, exposure to cold, fatigue, or any slight changes in the general health. Without skillful treatment a gleet may continue for years, or a whole life time, and it may from time to time possess enough of the specific poison of gonorrhœa to communicate the clap to another person. It is not usually very distressing when unaccompanied by other diseases; *but it is very dangerous*, for it is apt to produce irritable bladder, strictures of the urethra, atrophy

of the penis, seminal weakness, impotence, and other horrible disorders of the genito-urinary organs.

Another very distressing and dangerous disorder resulting from a gonorrhœa, is properly termed *irritable bladder*; and when once provoked it is very intimately associated with all the habits of sensualism. The patient is annoyed with a frequent desire to void his urine, sometimes so urgent and distressing that he is compelled to make water every fifteen minutes or half-hour. The quantity of the urine is not usually increased; but the bladder cannot endure its accumulation, a table-spoonful, or two, sometimes being sufficient to produce the most painful efforts of the organ to expel it, and hence the patient would pass only this small quantity of water. There is usually more or less scalding pain in the passage of the urine owing to the morbid sensibility at the neck of the bladder and along the course of the urethra. This disorder may exist in every degree of severity, from the mildest to the most violent and dangerous form, sometimes rendering the patient's life a burden to himself and obliging him to keep out of society, and to linger away his hours in solitude.

Irritable bladder arising from other causes, especially in females, we have briefly noticed in our chapter on diseases of females.

But of all the consequences of gonorrhœa—the most serious and dangerous, interfering most decidedly with the procreation of the species, and the happiness of married life—the formation of stricture is most to be dreaded. Spasmodic stricture may occur suddenly, at any time during

the progress of a gonorrhœa, or gleet, and may shortly disappear, or without proper treatment may be followed by the most deplorable consequence, such as rupture of the bladder, burrowing of the urine through the urethra into the cellular tissue, and finally—if death does not sooner take place—making a passage for its escape behind the scrotum.

But a *permanent* stricture—very properly so called, as it never gets well without the interference of the medical art—is slower in its formation. It is the result of chronic inflammatory action of some portion of the urethra, producing a thickening of the membrane, which becomes hard like cartilage, loses its natural elasticity, and more or less plugs up the passage. At first, the patient observes that a few drops of urine is retained in the urethra after the whole appears to be expelled, which dribbles away afterwards, and slightly wets his linen. Next he observes that the stream of urine has somewhat diminished in size, and as the stricture continues to form, he is sensible that greater effort is required to expel the urine. The stream continues to diminish, and is scattered, twisted, or forked, owing to the uneven condition of the urethra, and it cannot be ejected to the usual distance. As the disease progresses the stream becomes thread-like, or the urine is often discharged, drop by drop, requiring a very protracted effort, accompanied by the most excruciating pain to void a few spoonfuls. The bladder and kidneys become diseased; and spasmodic stricture is liable to occur at any time—quickly putting an end to the life of the patient.

If death does not occur in this way, the patient loses his appetite, becomes enervated and emaciated, great prostration ensues, and hectic fever sets in, putting an end to the fearful tragedy—the result of the imprudence or misfortune of the patient in not having proper treatment in season. Both spasmodic and permanent strictures may arise from many other causes, such as injuries to the parts diseased, morbid condition of the urine, excessive nervous irritability, intemperance, sexual excesses, self-abuses, etc., etc., and require the utmost skill and caution in their treatment. Permanent stricture in the female is very unfrequent, on account of the shortness and greater dilatability of the urethra, but spasmodic stricture is a very frequent attendant upon child-bearing.

There is no disease of these organs that requires greater caution and skill than the treatment of stricture. There is none demanding more minute acquaintance with the anatomy of the parts; none in which blundering rashness or ignorance may produce more deplorable mischief. But in the hands of a cautious, skillful practitioner a perfect and permanent cure can usually be expected, even in those cases which have existed for years, and seem entirely hopeless. By gently and perseveringly attempting the dilatation of the stricture by the use of bougies and catheters, especially adapted to the case in hand, together with appropriate internal treatment, the hardened mass gradually disappears, the membrane becomes soft and natural, allowing the introduction of a full sized instrument, and the free and easy passage of a full stream of urine. In this

way we have always succeeded in curing strictures without the necessity of resorting to cutting instruments. We have often found two, three, or even four or five strictures of the urethra at the same time, and have succeeded, in a longer or shorter time, in making a complete cure to the great relief and joy of the patient, whose life had been wretched beyond description. But let me repeat that this treatment is dangerous in the hands of a blundering, uneducated doctor, or, indeed, in the hands of any physician unless he has given special attention to the anatomy of the parts, and the treatment of this disease; for the urethra is so irregular in its form, there are so many prominences and depressions along its course, and so many ducts opening into it, that a false passage may be made by forcing the instrument into the bulb, or even into the prostate gland. Some deplorable cases of this kind have come under our observation.

But stricture and all the other unhappy results of gonorrhœa, which we have now mentioned, may usually be averted, by the proper treatment of the gonorrhœa itself. We shall not, therefore, attempt to point out how patients can treat themselves, for no persons uneducated in medicine can manage such cases with safety. It is sheer nonsense to talk about patients treating themselves. We would, therefore, warn them against their own treatment and that of mere pretenders to medical science. Such trifling is always dangerous. Every case must be treated by itself, and there are many circumstances which greatly modify the treatment at different stages of the disease, and in

different patients, such as the intensity of the disease, the time it has existed, the constitution and general health of the patient, his idiosyncracies, and even his temperament, age, etc. Hence a remedy that would be appropriate and highly beneficial, when given to a patient at the proper time, might intensify the disease four fold when given to another patient, at a different stage of the disease. How often do we find patients, and even *doctors* resorting to certain stimulating resins, and astringent, irritating injections, at the time when the very opposite course of treatment is demanded; and the consequences of such blundering are often most disastrous. Such things have so often come to our knowledge, that they are really sickening to contemplate. Every person ought to know that it is unsafe for any one except an educated physician to undertake the treatment of a serious and dangerous disease, a disease liable to such horrible consequences as a badly managed gonorrhœa.

A confirmed gonorrhœa cannot be arrested *suddenly* with safety to the patient; and those persons who advertise that they can cure the disease in a day or two without regard to diet, etc., are totally regardless of the deplorable consequences of their practice. No honest physician will resort to such extreme measures, and hazard the health, and even life of his patient, for a few paltry dollars. It is one thing to arrest the discharge temporarily, and quite another thing to cure the disease permanently on which the discharge depends. In the former case the inflammatory symptoms become dangerous, the discharge reappears

from time to time, and becomes chronic and gleet, and diseased testicles, irritable bladder, and strictures of the urethra, are very likely to follow. But when the disease is completely cured, the patient is exempt from all such dangerous consequences. We have often cured a gonorrhœa in three or four days, but not by attempting, in the first instance, suddenly to arrest the discharge; but by carefully adapting our treatment to the condition of the parts, and endeavoring, as speedily as possible, to bring about such a favorable condition that it would be perfectly safe to administer remedies for the special purpose of arresting the discharge. In this way the discharge is permanently arrested, the cure is complete, and the patient is protected from all those terrible consequences, which result from a badly treated gonorrhœa.

Let us now direct our attention to another venereal disease known as syphilis, or the pox. This infection, though produced by impure sexual connection, is entirely distinct, in its primary and constitutional effects, from that we have already considered. Gonorrhœa is produced by the inoculation of a venereal poison, and so is syphilis; but the poisons are essentially different in character, and there is no analogy between the two diseases, except that they primarily affect the same organs.

There is a difference of opinion as to the origin of the term syphilis, but it is probably derived from two Greek words, *sys*, signifying *swine*, and *phileo*, to love, literally a lover of swine, because the swine was regarded by the Jews as an unclean animal, and its flesh was supposed to

produce scrofula, which is somewhat analogous to constitutional syphilis. But such criticism is of no consequence to the reader, and we will, at once, proceed to give a brief description of the disease itself.

Primary syphilis consists in a small ulcer, called CHANCER. This is usually found upon some portion of the genital organs, as might be supposed from the nature of the contact producing the disease. In man its most usual seat is upon the glans, or head of the penis, upon the prepuce, in the furrow between the glans and prepuce, and at the sides of the frenum or bridle of the penis, because those parts are the most exposed to the syphilitic virus or poison, and also best calculated to retain the matter. But we often find chancres upon the skin of the penis, the scrotum, and sometimes upon the thighs. In the female they are usually found upon the external genital organs, but often in the vagina, and upon the neck of the womb, and sometimes upon the thighs, and about the anus; and, loathsome as the statement may appear, it must be placed on record as a matter of science, that true syphilitic chancres have been found upon the lips and tongues of both sexes. We have seen a number of such cases. In short, wherever the syphilitic virus is thoroughly applied to the living tissues, there a chancre may be produced.

If we take a little of the matter of a chancre before it begins to heal, and insert it into the skin with the point of a lancet, we can produce a new chancre like the old one. Practitioners sometimes resort to this method of diagnosis when they are doubtful as to the character of the

old sore, being careful to destroy the new chancre as soon as its character is developed.

The period of incubation, as it is called, or the time, which elapses, after an impure connection, before a chancre is developed, varies from three to ten days. But the poison commences its action from the time of its application, some days being necessary to produce the smallest pimple or sore. If the parts with which the virus comes in contact are excoriated or chafed a chancre is more likely to be developed, and in less time than otherwise; and both syphilis and gonorrhœa are more likely to be produced in persons whose skin and membranes are thin and delicate than in those in whom these tissues are firmer, tougher, and thicker.

There are many varieties of chancres, depending chiefly, no doubt, upon the character of the ulcer whence the infectious matter is derived; but also modified, to a certain extent, by the constitution of the patient, the condition of the genital organs at the time of the infection, etc. But it will be sufficiently accurate for our present purpose to sum up all these varieties under three heads:—

1. The indurated or hard chancre! This is sometimes called the Hunterian chancre, because it was first accurately described by the celebrated English surgeon, John Hunter. But in plain English it is called a hard chancre, which expresses the character of the sore. It may begin as a little pimple, or as a small patch of excoriation, but when fully formed its edges and base are as hard as cartilage. It is nearly circular, of a tawny color, and ex-

cavated or cupped in the centre; and if you take it between the thumb and finger, it feels like a little cup of cartilage set in the soft flesh. Its most frequent seat is upon the glans penis.

2. Non-indurated or soft chancre! This chancre has not, like the preceding, the hard base and edges, but it is soft, as its name implies. It commences as a little pimple, or pustule, which itches the patient, and leads him to make an examination of the parts; next it bursts, and soon displays a foul, yellowish ulcer attended with slight redness and swelling, and spreads circularly. At first this sore is sometimes covered with a dirty brown scab, but not always. If the ulcer is not properly treated but continues to spread, dirty-looking fungous granulations may be formed, producing great irritation and pain. This chancre is usually found on the prepuce, or at the sides of the frenum, and there may be one, or half a dozen, at the same time.

3. Phagedenic chancres! These are rapid in their progress, corroding or eating away the neighbouring parts. They sometimes become sloughing, that is, small patches of the surrounding tissue die, and separate, or slough away from the living tissue. Sometimes they spread extensively under the skin, at other times they eat deeply into the substance of the penis. The edges are irregular and ragged, and the discharge thin, bloody and profuse. They are exceedingly painful, and always dangerous, sometimes destroying large portions, and occasionally the whole of the virile member. The malignant character of

these ulcers may arise from some vicious condition of the constitution and the genital organs, or inappropriate, meddling treatment, or some peculiar malignancy in the infectious matter. Either of the other chancres wanting proper treatment, may take on the phagedenic or sloughing condition at any time during their ulcerative stages. Druitt, an English author, says, "There is reason to believe that intercourse between foreigners gives rise to a very destructive kind of poison. The venereal secretions of the Portuguese women appear to have been horribly deleterious to the British soldiers during the Peninsular war, who gave the expressive name of *The Black Lion* to the sloughing sores that resulted from connexion with them."

A chancre, and gonorrhœa, are sometimes contracted at the same filthy intercourse, and coexist in the same patient, as a liberal reward for his deeds of dirty daring. Such cases have often fallen under our notice. A chancre may be found within the urethra near the end of the penis, but entirely concealed from the observation of the patient, and the discharge mistaken by the inattentive physician, as well as the patient, for a gonorrhœal discharge; and being treated for a gonorrhœa, the patient would be likely, in due time, to be afflicted with all the horrors of constitutional syphilis without knowing that he had ever been infected with primary syphilis. In like manner a chancre in the vagina, or upon the neck of the womb, producing little pain in those situations—the principal symptom being a slight purulent discharge from the vagina, may be unob-

served, and unsuspected, and allowed to run on till her entire system is polluted with the disease, and her health destroyed for life. A careful medical examination when the patient has reason to suspect that she has been contaminated, and a thorough course of treatment when chancres are formed in those situations, are the only safeguards within her reach. We would raise no useless alarm here, but we have seen so many women literally rotten with constitutional syphilis, who were entirely unaware of their real condition, or that they had ever been affected with a "bad disease," that we cannot withhold this word of advice and caution.

As one of the results of a chancre, and not sufficiently remote, nor of a nature to be classed among the constitutional symptoms, we may name the formation of bubo. We have already spoken of gonorrhœal buboes, and some of the differences between them and a syphilitic bubo, the latter always being produced by the absorption of the poisonous matter of a chancre. A lymphatic vessel or gland enlarged by such a cause constitutes a true syphilitic bubo; hence we may have a bubo of the penis running along the course of a lymphatic vessel; but its usual seat is in the groins. It usually makes its appearance about the time the chancre ceases to ulcerate. If we take a little matter from a bubo after it has reached the ulcerative stage, and insert it beneath the cuticle, we can produce a true chancre like the first. A syphilitic bubo without good treatment usually bursts and displays a foul, copper-colored, running sore. If acute, there is usually but one,

nearly always situated above Poupart's ligament; if chronic, there may be more than one. These latter generally occur in weak, scrofulous constitutions, or in constitutions saturated with mercury, or vitiated and broken down by intemperance. The glands slowly enlarge; at length the skin inflames; next portions of the skin die and slough away, exposing extensive, indolent, loathsome ulcers, that are very obstinate in healing, lasting, perhaps, for months.

But a chancre and a bubo though distressing and loathsome in the extreme, are trifling disorders, in themselves considered, compared with constitutional syphilis. The great danger of the primary disease, is the pollution of the general system. If the constitution is viciated by habits of sensualism, or if the patient is fool enough to undertake the management of his own case, or to submit himself to the treatment of mere charlatans, or if mercury is administered in large doses when contra-indicated, the primary ulcer becomes obstinate and persistent, the poisonous matter is absorbed into the system, and viciates the blood, deranges the nervous centres, perverts all the structure of the body, to make its outward appearance, in due time, in various horrible forms.

The symptoms of constitutional syphilis are usually divided into the *secondary* and *tertiary*; the former relating to those which follow close upon the primary disease, affecting the skin, mucous membranes, etc.; the latter relating to those more remote, affecting the bones, and other deep-seated tissues and organs. But the time of their appearance, their order of sequence, etc., is very uncer-

tain, mixed, and confused, and, therefore, without regard to this division, we shall proceed to notice briefly some of these symptoms.

Usually, in six or eight weeks after the primary disease, sometimes earlier, and, at other times, much later, the patient becomes dispirited, his sleep is disturbed, his eyes have a dull, heavy appearance; he loses his appetite, begins to waste away in flesh, experiences a sense of general lassitude or weariness, and may have night sweats, rheumatic pains, etc. We may now look out for a crop of skin diseases, affections of the throat, etc.

In the mildest cases, we may find nothing but a mottled condition of the skin; in other cases we find brownish, dirty, copper-colored patches, slightly elevated above the surrounding surface; or, there may be an eruption of pimples, varying in size from a pin's head to a large pea succeeded by scabs. We may also have copper-colored blotches of a scaly character, succeeded by scabs, which fall off, and expose shallow ulcers with copper-colored edges. In still severer cases, we have a vesicular eruption. These are filled with semen, which gradually becomes purulent, and dries into thick, dirty looking scabs, while the ulcers extend beneath them, and when the scabs fall off they leave dirty, foul, circular ulcers, of various sizes and obstinately indisposed to heal.

We may have sore throat at any time after the constitution becomes tainted. Sometimes it appears before the eruption upon the surface, at other times not till a later period. It may be cured, but unless the syphilitic taint

is entirely subdued, or eradicated from the system, it may reappear, from time to time, to harass and torment the patient. In the mildest cases there may be a little inflammation and excoriation of the mucous membrane of the tonsils, or some part of the fauces or mouth. But we more frequently find ulcers upon the tonsils, fauces, and pharynx, with ragged, elevated edges, covered by a loathsome, ash-colored matter, and surrounded by an unhealthy livid appearance of the mucous membrane. Occasionally these ulcers become sloughing and extend rapidly, giving rise to great pain and difficulty in swallowing, and more or less constitutional disturbance. One of these may open into the lingual artery, and prove fatal by hemorrhage; or it may be situated upon the glottis, and the contractions, which take place in healing, may be sufficient to obstruct the passage of air to the lungs, producing death by suffocation.

The nasal appendage is liable to a foul attack at this time, or at any subsequent period when the constitutional disease shows itself. It usually commences with dryness and sniffing, followed by a discharge of offensive matter. Ulceration may extend to the bones of the nose, causing its bridge to fall in, and producing the most odious deformity. Sometimes the whole nose is destroyed. The eyes may also be affected with a disease called iritis, giving them a peculiar, disagreeable appearance, and producing more or less derangement of vision. The testes may enlarge from the effects of chronic inflammation, and become very painful, especially at night; or they may waste away, till

they almost entirely disappear; or malignant disease may be induced, rendering their removal necessary to save the life of the patient. The glands of the neck may inflame and enlarge, and abscesses may be formed which become indolent and obstinate in healing.

The formation of tubercles should always be looked upon as an unfavorable symptom. These consist of a feebly organized substance, appearing to have the consistence of cheese, varying in size from the smallest pea to a chestnut, but without any definite form. They soften sooner or later, suppurate and form deep irregular ulcers of a loathsome and obstinate character. They may belong to the secondary or tertiary symptoms, and may appear upon the surface of the body, or in the deep-seated tissues. Ricord has found tubercles in the brain that he believed to have a syphilitic origin. More frequently, however, they are found upon the cheeks, at the alæ of the nose, upon the tongue and the palate. We have seen the most foul, offensive, and dangerous ulcers of the tongue produced by patches of these tubercles; they often destroy the soft palate and the bones, leaving a hideous chasm in the upper part of the mouth, destroying the patient's voice, etc. Copper-colored tubercles may also be found about the anus, the genital organs, upon the arms, and the legs, etc., either alone, or accompanied with other skin diseases.

In bad cases the hair and eyebrows may fall out, and a scurf form upon the scalp; the roots of the nails become inflamed, and the nails themselves become brittle, easily crack or break, and even fall out. But these symptoms

are rather unfrequent. Diseases of the bones, however, are a very common symptom of constitutional syphilis, and may occur at a very remote period after the primary affection. The bones situated superficially are most liable to venereal disease. The tibia, and ulna, or bones of the legs; the clavicle or collar-bone; and the frontal bone, or the bone which forms the forehead, are the most usual seats. The patient is first admonished of the disease by some tenderness of the affected bone, followed by severe pain, nearly or quite absent during the day, but returning in the evening to torment the patient through the night. The pains are shortly accompanied with swellings known as *nodes*, and if the disease continues to advance the periosteum or membrane covering the bone is destroyed, and a foul, profuse, obstinate, and painful abscess is established called *caries* of the bone. There may be a number of openings for such abscesses. Sometimes portions of the bone die and separate from the sound bone, coming away themselves through the opening in the soft tissues, on being removed by the practitioner; this is called *necrosis* of the bone. At other times there will be an actual hypertrophy, or increase of the bulk of bone, which is termed *exostosis* of the bone. If the disease is situated upon the forehead, or any other part of the cranium, death may ensue from inflammation of the membranes of the brain, or the actual protrusion of the brain through the aperture in the skull. Such cases are not so common now as formerly, but they occur every now and then, and are

found in our college museums telling a silent but fearful story of the ravages of this hateful disease.

In addition to the foregoing symptoms we sometimes have certain warty and vegetative excrescences, soft, fungous, copper-colored elevations called condyloma, and aphthous eruptions about the anus, upon the genitals, between the fingers, etc., which are perfectly manageable under a skillful course of treatment; but, if neglected, exceedingly annoying and destructive to the patient.

The observing physician is constantly meeting with patients in the streets of our large towns more or less marked with the external evidences of syphilitic disease; but the bad cases are crowded off into our hospitals, or sick at their homes, the medical man assigning some other cause for their sickness out of respect for the patient and his family. The reader must not, therefore, suppose that these things seldom exist, because he is seldom made acquainted with them in his daily intercourse with the world; for such things are the arcana of the profession, and carefully concealed from everybody except the medical attendant. Drunkenness and venereal diseases are frequent causes of death in our large towns; but they seldom appear in our bills of mortality, the physicians being deterred by public sentiment, and a proper regard for the friends of the deceased, from assigning either of these causes of death in his certificate of burial.

But we sometimes find patients whose entire systems are tainted with the venereal poison, still nearly or quite free from the usual external symptoms of the disease.

Their general health is bad, their appetite fails, they lose flesh, become dispirited, are, perhaps, a little jaundiced and dyspeptic, and subject to ill turns from every slight exposure; and unless their true condition is discovered, and they are put through a thorough course of treatment, they will always be complaining, often down sick, and transmit their disease to their offspring. In such cases, as well as those marked by severe external symptoms, the patient may suffer from a sort of syphilitic bronchitis, and the venereal poison may so affect the brain and nervous centres, as to produce general, or local, paralysis, and terminate, or render still more miserable, his unhappy existence.

But one of the most melancholy results of constitutional syphilis is the transmission of the disease from the parents to their offspring. Everybody knows that certain diseases are hereditary, and none possesses this character more decidedly than the one under consideration. The syphilitic poison once having contaminated the system of the parent and not having been perfectly eradicated is sure to make its appearance, with more or less severity, in their children—a most fearful cause of death among young children in our large towns, though not appearing in our bills of mortality. Sometimes the foetus dies in the womb, and is expelled before full term, usually at the seventh or eighth month, with all the evidences of death by syphilis, such as decomposition, copper-colored blotches, etc. At other times the child is born alive, with all the symptoms of syphilis at the time of birth, or soon afterwards to be de-

veloped. The eyes are inflamed, the nostrils are stuffed with fetid matter, copper-colored blotches appear upon the surface, the cry is low, husky, murmuring, and hoarse, and fortunately the little contaminated innocent usually wastes away and dies. Sometimes the child is plump and fat, and apparently healthy at the time of birth, having none of the external symptoms of syphilitic disease; but in two or three months grows sick, wastes away, and dies, the doctor himself often being at a loss to understand the cause of death. In such cases a thorough course of enlightened treatment administered to the infant directly, and indirectly through the mother or nurse, will often save the child, and, perhaps, insure its future health and vigor; but to insure a future progeny that will be clean and healthy at the time of birth, the treatment must be directed to the parents, or, at least, to that parent who has been the victim of syphilitic disease. After the birth of an unclean child, the husband and wife must live apart, and be placed under a thorough course of alterative treatment; and when the physician has reason to believe the cure complete, they can resume the marital rights, and if the treatment had been thorough and skillful, the next child will be free from all venereal taint. Though the wife may never have been afflicted with *primary* syphilis, her system may have been impressed with the constitutional disease through her husband, or the fœtus in utero, and the skillful physician will usually deem it prudent to prescribe a course of treatment for both parties. This is no fancy sketch, but enters largely into the practice of every

eminent physician in our large towns, and the results are always as we have stated—the birth and growth of healthy children.

But one of the peculiarities of constitutional syphilis is its *latent* condition. It may remain in the system for years in a perfectly quiescent or inactive state to be developed in the future offspring, the first, perhaps, having escaped contamination. We have a case on record as an example: A gentleman had contracted syphilis two years before his marriage, but considered himself cured. His first two children bore no marks of the disease, but on the contrary were the very models of health. The next two children were covered with syphilitic blotches, and soon died, the father, in the mean time, having contracted no new disease. The health of the mother also began to decline. They were separated, and both placed upon a thorough course of treatment, and after the cure was judged to be complete they again lived together and had children entirely free from all syphilitic taint.

Why this disease should lurk in the system for years, and not affect the first, but develop itself in subsequent offspring, we will not undertake to explain, but the fact is beyond all contradiction. It is impossible to trace, and fully explain all the symptoms and subtle workings of the venereal poison. Once having entered the system and impressed itself upon the blood, and all the tissues of the body, it may engender a thousand fierce symptoms, that most persons, and even practitioners, are likely to attribute to almost any other causes. So long as a germ of the dis-

ease remains in the constitution a renewal of its action may be expected at any period, however remote, and its half-extinguished energy may again usurp its power.

Again:—The tertiary form of constitutional syphilis—that is, when it is remote from the primary disease and characterized by affections of the bones, deep-seated tubercles, etc.—is not always transmitted to the offspring in the specific form of syphilis, but in the form of other diseases, especially scrofula, which itself is strongly hereditary. It is the opinion of many investigators that all scrofulous diseases originate in syphilis, at recent and remote periods, and though not susceptible of positive proof, there are some reasons for adopting this view of the subject. 1. The analogy in the character of the two diseases. 2. We know that tertiary syphilis in one generation will produce scrofula in the next. And, 3. The great prevalence of syphilis in every age of which history gives us any account of man's follies and vices. The books of Moses are the most ancient, as well as the most reliable history extant; and these, together with other portions of the Old Testament, give us distinct traces of the virulence, and general prevalence, of venereal diseases, though not known by our modern names. As examples we refer the inquisitive to Leviticus, chapter xv. 1-15, and the xxxviii. Psalm of David. Upon the former passage we make the following brief extract from the comments of the Rev. Dr. Adam Clarke, the learned commentator of the Bible:—

“The disgraceful disorder referred to here is a foul blot, which the justice of God, in the course of providence, has

made in general the inseparable consequence of the criminal indulgences, and serves, in some measure, correct and restrain the vice itself. In countries where public prostitution was permitted, where it was even a religious ceremony among those who were idolaters, the disease must necessarily have been frequent and prevalent. When the pollutions and libertinism of former times are considered, it seems rather strange that medical men should have adopted the opinion, and consumed so much time in endeavoring to prove it, viz.: that the disease is *modern*. It must have existed, in certain measures, ever since prostitution prevailed in the world, and this has been in every nation of the earth, from the earliest era. That the Israelites might have received it from the Egyptians, and that it must, through the Baal-peor and Ashtaroth abominations, which they learned and practiced, have prevailed among the Moabites, etc., there can be little reason to doubt."

With reference to the treatment of syphilis, a few general observations, if properly heeded, may be an incalculable benefit to such unfortunates. And first, let it be indelibly impressed upon the minds of our patients, that the more speedily primary syphilis is cured, the less danger there will be that the poison from the chancre or bubo will enter into and contaminate the general system. If the patient has been exposed to the cause, and is wide awake to his danger, he will usually discover the chancre when it is but a pimple, or a mere excoriation, and without delay apply to a physician of character for its cure. At that early

stage the chancre can at once be removed, and the system protected against the liability of constitutional disease. This, therefore, is a great advantage in the treatment of this disease, depending altogether upon the vigilance and discretion of the patient.

And here we would remark that primary syphilis, characterized by the chancre, and, perhaps, a bubo, cannot be treated properly without the presence of the patient, as certain applications, together with the other treatment, cannot, with safety, be omitted, nor entrusted to any other person; but constitutional syphilis of every variety, in the parents, or their children, or other persons, as well as gleet, irritable bladder, seminal weakness, impotency, sterility, etc., etc., can be treated with perfect success, by correspondence, or through some friend of the patient, where a personal interview is impracticable. Our success in this kind of practice enables us always to guarantee great relief, and usually a permanent cure, when patients follow our simple directions—of course, we can promise nothing to others. Among physicians who have distinguished themselves in any special department of medicine, this kind of practice is no new thing under the sun, having only of late been brought into disrepute by the attempts of mere charlatans to play upon the fears and credulities of the people—but let the evil rest where it belongs.

We would especially warn patients to avoid all illegitimate medical treatment, whether for primary or constitutional syphilis, or other dangerous diseases. By illegitimate treatment we mean the attempts of patients to

manage their own cases, and the interference of mere pretenders to medical science, usually known as charlatans, empirics, and by many other names. Without an intimate knowledge of the nature of the disease, or the action of powerful remedies upon the system, or the conditions, which modify the action of such remedies—for such persons to turn these potent agents for good or evil against themselves is a species of weakness truly pitiable. Attempts at self-cure are too frequently finished in self-destruction. It has been said that in the practice of law, he who conducts his own case, has a fool for a client; and much more emphatically will the assertion apply to those who turn in weakness and suffering their ill-judged remedies against themselves—surely he who doctors himself has a fool for a patient.

The abuse of mercury has been productive of great mischief, both in the hands of practitioners and patients, who have undertaken to cure themselves. Under the mistaken notion that it is an antidote for venereal diseases, the untutored have supposed that in order to effect a cure it would be necessary only to saturate the system well with this drug; or, if prejudiced against mercury, they have supposed they could effect a cure by persevering in the use of some of those advertised nostrums, the basis of which is always mercurial, though professedly vegetable and harmless, and so thousands have been mercurialized out of the world annually; or their constitutions have been so broken down, and the functions of the system so impaired, as to render the remainder of life miserable.

We fully coincide with the following passage from the published lectures of Dr. Dickson, formerly a medical officer on the British staff:—"As the non-mercurial treatment of primary sores gained ground, secondary symptoms—or, more correctly speaking, what were formerly mistaken as such—diminished at the same rate. Many of these mis-called secondary symptoms have only lately been found out, in many cases, to be the primary symptoms of bad practice. Yes, the rotten skulls found in anatomical museums with all their beautiful specimens of diseased bones, which in our younger days were so abundant in our hospitals, in the great majority of cases, were the productions of long and harassing courses of mercury. When the mercurial treatment was most in vogue, secondary symptoms were most numerous; but the medical men of that day, the blind devotees of Hunter, supposed them to be the result of too little mercury having been employed in the primary treatment. These practitioners resembled the celebrated Sangrado, who, when his patients died, after he had drawn almost every drop of blood from their bodies, and drenched them with warm water while they were able to swallow it, declared their deaths could not have happened if they had been sufficiently bled, or had taken warm water enough."

Dr. Dickson was a regular physician, whose motto was PROGRESS. He did not condemn the judicious use, but the shameful abuse, of mercury. In a majority of cases syphilis can be successfully treated without a particle of this drug; in some cases it produces positive injury, while

in others it produces the greatest benefits, nay, is indispensable. But the selection of such cases and the judicious administration of the remedy—the form of preparation, the size of the dose, the length of time it should be continued, etc.,—requires all the discrimination of the experienced physician. Thus employed it never produces any bad effects. Not a single case has ever come under our observation, in hospital or private practice, where this remedy produced any unfavorable results, when properly employed. To get all the benefits it is capable of effecting it is never necessary to carry it to the extent of producing salivation, or even touching the mouth. But without such discrimination there is danger in its employment, for it is among the edged tools of physic requiring to be wielded by a competent and practiced hand.

There are two classes of medical men to whom such patients should never apply for treatment, if they can find the third class. One is the general practitioner, who has neither time nor disposition to bestow proper attention upon the diseases under consideration; for no physician, however worthy and learned, can treat these diseases successfully unless he makes them a special study and has much practice in this department of medicine. In our large towns such cases are usually declined by the conscientious physician engaged in general practice. The other class comprises those who have not received a regular medical education, and those who take upon themselves all manner of silly names for the purpose of misrepresentation and humbug. Be assured, reader, that a physi-

cian of character, who has ability to succeed in the regular profession of medicine will be slow to identify himself with any new sect. His motto will be progress, not revolution, for there can be no such thing in science. All such irregulars are sadly deficient in the accurate discrimination of the varieties and changes in diseases bearing the same name, and indicating a difference of treatment. Their practice is never safe.

A collegiate medical education is highly important that the young practitioner may feel how little he knows, and be prepared to start right in the prosecution of his studies when he assumes the responsibilities of a physician. Some years ago twenty candidates for the honors of the medical department of one of our universities were rejected on account of their inability to pass a satisfactory examination, and we suppose those poor fellows were ever after in the habit of speaking in the most contemptuous terms of college diplomas, etc.

We knew a man in an obscure country town, push himself into the practice of physic without even having seen the inside of a college, or hospital, or having devoted himself to medical study in any other way, except to read a few such books as "every man his own doctor," etc. Of course, he was out against the "regulars," and, by some stupid people, regarded as a skillful physician, and, in their estimation, actually placed above an old physician of attainments, residing at the village beyond. Now a change of circumstances soon brought to this man's door a handsome fortune, thus placing in his hands the means

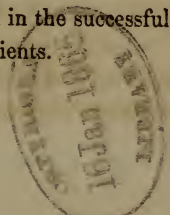
of becoming a regular himself, and having sufficient ambition to make the best of what he possessed, after some preparatory study, assisted by the old doctor at the village, he started off for college, where, to his great mortification, he soon found he knew far less than any boy who had studied one year with a regular physician before entering college. He was heartily ashamed of his former position, studied well, felt his need of all the advantages within his reach, and, in due time, became a respectable practitioner of medicine, and never felt his importance so much afterwards.

These pseudo-doctors, in our large towns, usually advertise for the treatment of venereal and other *secret* diseases; in the country, they not unfrequently become *family* physicians, and because patients sometimes recover, in spite of their interference, or without judicious medical treatment, it is supposed they possess remarkable skill; and, if we give them the credit of curing all who recover in their hands, and ascribe to an over-ruling Providence the death of all who die, they will, indeed, pass for very good doctors.

Could the reader see one tithe of the principles and facts, and the deductions from such principles and facts, which must be thoroughly learned, to enable a man to stand in the regular profession as a good physician, especially in our large towns, he would be shocked and indignant at the pretensions, misrepresentations, frauds, and falsehoods of charlatans. How important, therefore, that every person afflicted with any sort of infirmity, or

disease of the sexual system, should endeavor to place himself entirely in the hands of a regularly qualified physician, whose learning, skill and integrity is a sufficient guarantee of secrecy, and a proper course of treatment.

As it respects our own practice, we will here state, that no silly affectation, or extreme modesty influences us to withhold a truthful statement of our qualifications and success. If close application to study, together with the advantages of the best medical institutions in the world, and long-continued, untiring, and laborious pursuit of medical knowledge in after-life, afford any assurances of ability and success, as such we submit the statement to our readers. Patients who place themselves entirely under our treatment, can always rely upon secrecy, humanity, and prompt attention in the management of their cases. SUCCESS is our constant motto, compared with which all other things in our profession dwindle away to insignificance. Our constant purpose is to CURE our patients, but this requires their own concurrence, discretion, and prudence in carrying out our directions and plan of treatment. Those patients, therefore, who are afflicted with chronic diseases of long standing, and lack the resolution and judgment to continue a well-devised plan of treatment long enough to experience its full benefits, are requested not to trouble us with their complaints or their fees; for we rather lose a dozen fees than fail in the successful treatment of one of the least of our patients.



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